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Infantry Training
Volume IX
Infantry Tactics

Pamphlet No. 45 Part 2
The Infantry Platoon
(Basic Tactics)

RESTRICTED

1980

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The Infantry Platoon (Basic Tactics)

Prepared under the direction
of the Chief of the General Staff

Ministry of Defence

October, 1980

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FOREWORD

1. Any person wishing to propose amendments to this pamphlet is invited to write to the Officer Commanding, Platoon Commanders Division, Tactics Wing, School of Infantry, Warminster, Wiltshire, BA12 0DJ. All such proposals will be given due consideration and, if there is a requirement for them, the appropriate amendments will be prepared by the School of Infantry and submitted to the Headquarters, Director of Infantry for approval and publication action.

2. This pamphlet should be read in conjunction with Infantry Training, Volume IX, Infantry Tactics, Pamphlet No. 45 Part 1—The Infantry Platoon (General) (Army Code No. 71236). It supersedes Infantry Training, Volume IX, Infantry Tactics, Pamphlet No. 45 Part 2—The Infantry Platoon (Basic Tactics) 1975 (Army Code No. 70741) and Pamphlet No. 45 Part 3—The Infantry Platoon (Supplement) 1977 (Army Code No. 70741).

CONTENTS

		Page
Foreword		v
Contents		vii
Abbreviations		xii
Associated Publications		xiv
Introduction		xvii

CHAPTER 1—ATTACK

Section 1	Aim	1–1
Section 2	Fire and Manoeuvre	1–1
Section 3	Section Formations	1–4
Section 4	Platoon Formations	1–13
Section 5	Section Battle Drills	1–14
Section 6	Platoon Battle Drills	1–23
Section 7	The Quick Attack	1–30
Section 8	The Deliberate Attack	1–32
Section 9	Night Attack	1–35
Section 10	Night Attack with Surveillance Devices	1–38
Section 11	Reserve Platoon in a Company Attack	1–42
Section 12	Attacking Trench Systems and Strong Points	1–42
Section 13	The Rifle Platoon in the Attack with Tanks	1–44
Section 14	The Mechanized Platoon in the Attack	1–48

CHAPTER 2—NIGHT OPERATIONS

Section 15	Introduction	2–1
Section 16	Training	2–1
Section 17	Night Vision and Operations at Night	2–2
Section 18	Infantry Night Fighting Aids	2–4

CHAPTER 3—DEFENCE

Section 19	Definitions	3–1
Section 20	General Principles	3–2
Section 21	What the Platoon Commander Must Know	3–7
Section 22	Reconnaissance	3–7
Section 23	Siting the Platoon Position	3–8
Section 24	Platoon Tasks	3–11
Section 25	Priority of Work	3–11
Section 26	Duties of the Section Commander	3–13

		Page
Section 27	Platoon Headquarters	3–14
Section 28	Trenches and Shelters	3–15
Section 29	Digging Time	3–16
Section 30	Alternative Positions	3–16
Section 31	Wire Obstacles	3–19
Section 32	Mines	3–19
Section 33	Fire Plan	3–20
Section 34	Conduct of the Defensive Battle	3–21
Section 35	Routine in Defence	3–23
Section 36	The Mechanized Platoon in Defence	3–26
Section 37	Control and Guarding of Demolitions	3–29

CHAPTER 4—WITHDRAWAL

Section 38	General Principles	4–1
Section 39	Preparation	4–2
Section 40	Conduct of Withdrawal	4–3
Section 41	Occupation of a New Position	4–6
Section 42	Mechanized Withdrawal	4–9

CHAPTER 5—RELIEF IN PLACE

Section 43	Principles	5–1
Section 44	Planning and Preparation	5–2
Section 45	Relief Procedures	5–5
Section 46	Relief by a Mechanized Platoon	5–8

CHAPTER 6—FIGHTING IN BUILT-UP AREAS

Section 47	Characteristics	6–1
Section 48	Conduct of Offensive Operations	6–3
Section 49	Planning and Preparation	6–5
Section 50	House Clearing	6–7
Section 51	Clearing a Street	6–9
Section 52	Clearing a Village	6–9
Section 53	Defence of a Built-Up Area	6–11
Section 54	Preparing Strong Points	6–12

CHAPTER 7—FIGHTING IN WOODS

Section 55	Introduction	7–1
Section 56	The Effect of Wooded Areas on Tactics	7–2
Section 57	Defence	7–3
Section 58	Attack	7–12

		Page
CHAPTER 8—ASSAULT CROSSING OF OBSTACLES		
Section 59	General	8–1
Section 60	Crossing a Water Obstacle	8–1
Section 61	Wire Obstacles	8–9
Section 62	Minefields	8–9
CHAPTER 9—PATROLS, OPs AND SNIPERS		
Section 63	Aims of Patrolling	9–1
Section 64	Types of Patrol	9–1
Section 65	Co-ordinating and Planning	9–3
Section 66	Reconnaissance	9–5
Section 67	Patrol Orders and Rehearsals	9–6
Section 68	Weapons and Equipment	9–8
Section 69	Conduct of Patrols	9–9
Section 70	Patrol Harbour	9–15
Section 71	Observation Posts	9–19
Section 72	Snipers	9–24
CHAPTER 10—AMBUSHES AND ROAD BLOCKS		
Section 73	Principles	10–1
Section 74	Planning	10–4
Section 75	Small Deliberate Ambushes	10–15
Section 76	Preparation and Occupation	10–19
Section 77	Springing the Ambush	10–29
Section 78	Training	10–36
Section 79	Aids and Illuminants	10–37
Section 80	Tank Ambush	10–40
Section 81	Vehicle Ambush	10–42
CHAPTER 11—PROTECTION		
Section 82	General	11–1
Section 83	Protection at Rest	11–2
Section 84	Protection on the Move	11–7
Section 85	Counter Ambush Action When Moving on Foot	11–9
Section 86	Counter Ambush Action When Travelling in Vehicles	11–12
Section 87	Protection Against Air Attack	11–14
Section 88	Hides, Leaguers and Harbours	11–17
Section 89	Protection Against Chemical Attack	11–20

		Page
Section 90	Protection Against Nuclear Attack	11–23
Section 91	Alarm Signals	11–27

CHAPTER 12—NBC WARFARE

Section 92	Effect of Nuclear Weapons on Tactics ..	12–1
Section 93	Effect of Chemical Weapons on Tactics ..	12–2

ANNEXES AND APPENDICES

Annex A	Field Signals	A–1
	Appendix 1. Section and Platoon Field Signals	A1–1
	Appendix 2. Helicopter Marshalling Signals	A2–1
	Appendix 3. Hand signals for Use with Tanks, APCs and 'B' Vehicles	A3–1
Annex B	Characteristics of Surveillance Devices ..	B–1
Annex C	Comparison of Barbed Wire Obstacles ..	C–1
Annex D	Stores Needed for Standard Barbed Wire Obstacles	D–1
Annex E	Mine Handlaying Drills	E–1
	Appendix 1. Standard Anti-Tank Mine Handlaying Drill (Drill C)—Composition of Parties	E1–1
	Appendix 2. Standard Anti-Tank Mine Handlaying Drill (Drill C)—Diagrammatic	E2–1
Annex F	Routine in Defence (24 Hour Period) ..	F–1
Annex G	Orders to the Demolition Firing Party Commander	G–1
Annex H	Orders for Demolitions (Guard and Firing Party Commander)	H–1
Annex I	Infantry Breaching Equipment	I–1
	Appendix 1. Minefield Breeching—Deployment of Sections	I1–1
	Appendix 2. Minefield Breaching Drill—Diagrammatic	I2–1
Annex J	The Conduct of a Chemical Reconnaissance	J–1
Annex K	Duties and Responsibilities of NBC Sentries	K–1

ILLUSTRATIONS

Figure No.		Page
1	An Example of Section Fire and Manoeuvre	1–9
2	Single File	1–10
3	File	1–10
4	Arrowhead	1–11
5	Spearhead	1–11
6	Diamond	1–12
7	Extended Line	1–12
8	Platoon Formation—One Up	1–15
9	Platoon Formation—Two Up	1–16
10	Platoon Formation—Column	1–17
11	Example of Platoon Assault From a Flank	1–27
12	Platoon Attack—Reorganization	1–28
13	Approach Using One Route	1–39
14	Approach Using Platoon Routes	1–39
15	Section Attack On Open Trenches	1–45
16	Section Attack On a Small Bunker	1–46
17	APC Formations—Line	1–51
18	APC Formations—Line Ahead	1–51
19	APC Formations—Box	1–51
20	APC Formations—Two Up	1–52
21	APC Formations—One Up	1–52
22	Mechanized Platoon Formation on Dismounting	1–53
23	Mutual Support, Interlocking and Overlapping Fire	3–5
24	Two-man Battle Trench—Possible Development Stages	3–17
25	A Battalion Withdrawal Control Organization	4–7
26	A House Prepared as a Strongpoint	6–13
27	A Fire Position Inside a Room	6–14
28	A Fire Position Inside a Building	6–14
29	Fire Positions Outside Buildings	6–15
30	River Crossing—Correct Course for Crossing at Right Angles	8–3
31	River Crossing—Quickest Course	8–3
32	River Crossing—Crossing from an Inside Bend	8–4
33	Flotation Aids	8–7
34	A Patrol Harbour	9–17

		Page
35	Clearing Patrols	9–18
36	Layout of a Platoon Triangular Basic Ambush (Short Term)	10–11
37	Layout of a Platoon Triangular Basic Ambush (Long Term)	10–12
38	Layout of a Platoon 'T' Basic Ambush (Short Term)	10–17
39	Layout of a Platoon Linear Basic Ambush (Short Term)	10–18
40	Layout of a Section Linear Basic Ambush (Short Term)	10–21
41	Layout of a Platoon Triangular Area Ambush (Short Term)	10–23
42	Layout of a Platoon Linear Area Ambush (Long Term)	10–24
43	A Section Vehicle Ambush	10–45
44	Standard Anti-Tank Mine Handlaying Drill (Drill C)—Diagrammatic	E2–1
45	Minefield Breaching Drill—Diagrammatic	I2–1
46	Deployment of a Chemical Reconnaissance Party	J–5
47	Redeployment of a Chemical Reconnaissance Party	J–5

LIST OF ABBREVIATIONS

AF gear	Audio Frequency Gear
AFV	Armoured Fighting Vehicle
APC	Armoured Personnel Carrier
ATGW	Anti-Tank Guided Weapon
CEFO	Combat Equipment Fighting Order
CP	Command Post
CRP	Chemical Reconnaissance Party
CSWS	Crew Served Weapon Sight
CW	Chemical Warfare
DF	Defensive Fire
DZ	Dropping zone
F & M	Fire and Manoeuvre
FEBA	Forward Edge of the Battle Area
FOO	Forward Observation Officer
FPF	Final Protective Fire

FRM	Flexible Revetting Material
FSCC	Fire Support Co-ordination Centre
FUP	Forming Up Place
Gp	Group
GPMG	General Purpose Machine Gun
GS Radar	Ground Surveillance Radar
HE	High Explosive
II	Image Intensification
Intercom	Intercommunication
IPK	Individual Protection Kit
IR	Infra-Red
IRIS	Infra-Red Intrusion System
IS	Internal Security
IWS	Individual Weapon Sight
KT	Kiloton
LAW	Light Anti-Tank Weapon
LMD	Light Mobile Digger
LO	Liaison Officer
LP	Landing Point
LRATGW	Long Range Anti-Tank Guided Weapon
MAW	Medium Anti-Tank Weapon
MFC	Mortar Fire Controller
MT	Megaton
NAIAD	Nerve Agent Immobilized Enzyme Alarm and Detector
NBC	Nuclear Biological and Chemical
NOD	Night Observation Device
OBM	Outboard Motor
O Gp	Orders Group
OHP	Overhead Protection
OP	Observation Post
Ops	Operations
PDAT	Projector Defence Area Target
PW	Prisoner of War
RAP	Regimental Aid Post
Recce	Reconnaissance
RV	Rendezvous
RVD	Residual Vapour Kit
SAA	Small Arms Ammunition
SF	Sustained Fire
SITREP	Situation Report
SL	Start Line

SOP	Standing Operating Procedure
STANAG	Standardization Agreement (NATO)
Surv	Surveillance
TI	Thermal Imaging
TNT	Trinitrotoluene
TOBIAS	Territorial Observation By Intrusion Alarm System
UGS	Unattended Ground Sensor
VHF	Very High Frequency
VT Fuze	Variable Time Fuze

ASSOCIATED PUBLICATIONS

Title	Army Code No.
Infantry Training Volume I, Skill at Arms:	
Pamphlet No. 1, Shoot to Kill 1975	71008
Pamphlet No. 2, Fieldcraft and Fire Control (All Arms) 1976	71061
Pamphlet No. 3, Battle Lessons and Exercises 1979	71182
Infantry Training Volume IX, Infantry Tactics, Pamphlet No. 44, The Infantry Battalion 1975, Parts 1, 2 and 3 (with Supplement 1977)	70740
Infantry Training, Helicopter Aide Memoire 1977	70746
Infantry Aide Memoire:	
Part 1, General 1979	71153
Part 2, Section Commander's Aide Memoire 1979	71023
Part 3, Platoon Commander's Aide Memoire 1979	71154
Part 4, Combat Team Commander's Aide Memoire 1979	71155
Land Operations, Volume II, Non Nuclear Operations	70633
Volume III, Counter Revolutionary Operations	70506
Volume V, Operational Techniques under Special Conditions	70736
Military Engineering, Volume II, Field Engineering, Part II, All Arms:	
Pamphlet No. 2, Field Defences, 1970	70619
Pamphlet No. 3, Obstacles, 1974	70398 (Pam 3)
Pamphlet No. 5, Minelaying, 1978	70398 (Pam 5)
Notes on the Soviet Ground Forces	70735

Title	Army Code No.
Nuclear, Biological and Chemical Defence Training:	70273
Pamphlet No. 2, The Effects of NBC Attack	(Pam 2)
Pamphlet No. 4, Radiac Instruments	(Pam 4)
Pamphlet No. 5, Personal Protection and Decontamination	(Pam 5)
Pamphlet No. 8, Training and Training Equipment ..	(Pam 8)
Nuclear Handbook for Instructors and Staff Officers	9405

INFANTRY TRAINING
VOLUME IX—INFANTRY TACTICS
PAMPHLET No. 45 PART 2
THE INFANTRY PLATOON (BASIC TACTICS)

INTRODUCTION

Aim

1. The aim of this pamphlet is to provide a comprehensive yet easily digestible basis of knowledge and instruction for infantry platoon and section commanders.

Scope

2. In achieving the aim a great deal of detail is included which might appear unnecessary to the experienced platoon commander. However it must be borne in mind that this pamphlet is designed not only for members of the Regular, Reserve and Auxiliary Forces but that in times of mobilization and war it should provide a comprehensive guide to relatively inexperienced junior officers and NCOs in a rapidly expanding army.

3. The instruction covers platoons and sections of infantry, mechanized and parachute battalions in both nuclear and non-nuclear settings. It does not cover specialist platoons.

4. In order to avoid confusion at a time when new weapons and techniques are coming on to the market almost daily we have tried to avoid the use of trade names, e.g. 'SLR' or 'FV 432' and use the more generally accepted terms like 'rifle' or 'APC'. The use of terms is left to the discretion as appropriate of the lecturer or instructor.

5. Sub-units of a specific arm, e.g., infantry, are referred to as companies and platoons but on the battlefield tactical groups comprise all arms and are defined as under:

a. *Battle Group.* A tactical grouping usually with armour and infantry under command, based on the headquarters of an armoured or armoured reconnaissance regiment, or infantry battalion.

b. *Combat Team.* A sub-unit of a battle group, usually consisting of armour and infantry, commanded by a squadron or company commander.

Throughout this pamphlet both battle groups and combat teams are presumed to be commanded by infantry commanders.

Tactics

6. Tactics is the art of using one's resources to their best advantage taking into account the composition of one's force, the ground it has to operate over, the strength and disposition of the enemy and his likely reaction to one's moves. It is part flair and part knowledge which after study and practice adds up to experience and confidence.

7. Tactical ability not only saves lives but in husbanding resources lengthens the odds in your favour. A calculated risk is always acceptable in war but the aim should be, by study and practice, to eliminate the risk and allow calculation to take over. It is hoped that this volume will assist junior commanders to become sound tacticians.

Layout

8. The Infantry Platoon pamphlet is divided into two parts—Part 1 (General) and Part 2 (Basic Tactics). These parts should be read in conjunction. Part 2 is laid out in twelve chapters as follows:

a. *Chapter 1. Attack.* The principles of the attack, including manoeuvre, formations and battle drills.

b. *Chapter 2. Night Operations.* Training for night operations and night fighting aids.

c. *Chapters 3 and 4. Defence and Withdrawal.* The principles of defence and withdrawal.

d. *Chapter 5. Relief in Place.* The principles and planning for relief in action.

e. *Chapters 6 and 7. Fighting in Built-up Areas and Woods.* The conduct of operations in built-up areas and woods.

f. *Chapter 8. Assault Crossing of Obstacles.* The planning and techniques for crossing water and wire obstacles, and minefields.

g. *Chapter 9. Patrols, OPs and Snipers.* The elements of patrolling, the establishment of observation posts and the employment of snipers.

h. *Chapters 10 and 11. Ambushes, Road Blocks and Protection.* The principles and planning of ambushes and protection both at rest and on the move.

i. *Chapter 12. NBC Warfare.* The effects of nuclear and chemical weapons on tactics.

Associated Publications

9. Many other publications expand much of the information contained in this pamphlet. Some of the more important of these are listed at pages xiv and xv. A full list of General Staff publications is given in the Catalogue of Army Publications Part II, 1977 (Army Code No. 12123A).

CHAPTER 1

ATTACK

SECTION 1—AIM

0101. The aim of this chapter is to explain the techniques of attack.

SECTION 2—FIRE AND MANOEUVRE

0102. Fire and Manoeuvre (F & M) is the term given to the combination of the use of weapons, movement and ground. The object of F & M is to move with minimum casualties when in contact with the enemy. Ground is used to provide protection from enemy fire when on the move (manoeuvre), and fire from a static group is used to suppress enemy fire directed at the moving group. F & M is practised at all levels so that in a major attack a combination of supporting fire from artillery, mortars, tanks, ATGW and aircraft will help to get dismounted infantry onto an objective. Thereafter F & M will be used between gun group and rifle group or between individual riflemen for fighting through the enemy position.

Selection of Fire Positions

0103. The selection of fire positions is not restricted to defence alone. In the advance and the attack the section commander must be looking all the time for positions where his section can take cover if it comes under effective enemy fire and from which it can return fire if required.

0104. The selection of positions calls for knowledge of the characteristics of weapons and the use of ground.

Characteristics of Weapons

0105. Details of the characteristics of infantry weapons will be found at Annex E to Part 1.

0106. Your aim as a commander should be to place each weapon where it will best be able to inflict most damage on the enemy. You must consider:

- **a.** The range.
- **b.** Weight and rate of fire.
- **c.** The trajectory.
- **d.** The shape of the ground.

0107. This might, at first sight, appear a lot to absorb but once you are familiar with the characteristics of your weapons it will only take a matter

of seconds to be able to appreciate how to use them to their maximum effect.

Fire Control

0108. In battle, fire control is the task of the section commander and his second-in-command. To control his section's fire and obtain the best fire effect the section commander must know:

a. How to locate and indicate targets.
b. How to estimate range quickly and accurately.
c. What weapons to use.
d. What type of fire to order.
e. How to position himself so as to control the fire of his section.

0109. A constant watch must be kept on the ammunition supply and on the maintenance of an adequate reserve.

0110. The purpose of fire orders is to bring fire on to the enemy as quickly and as effectively as possible. The most difficult part of any fire order is usually the indication of the target. This is particularly true in the attack. In defence every man in the section will be familiar with the ground around him, and reference points and relevant ranges will have been given to him verbally and confirmed with a range card.

0111. In the attack or the advance, the ground is usually unknown and sections are constantly moving. Ranges will be changing and it will not always be possible to give reference points.

0112. The enemy may be dug in and well concealed so targets will be difficult to locate. The section commander will not always be the first to see the enemy; it will often be a soldier in the section. The soldier cannot always be expected to give a rapid, clear indication of the target. Tracer is a valuable means of indicating targets in such circumstances so long as its tendency to give away one's own position is taken into account.

0113. It is most important that every soldier realises the necessity for fire control to conserve ammunition. In a fire and manoeuvre operation it may be necessary to fire without seeing the enemy but this fire must only be the minimum necessary to make the enemy keep their heads down and to maintain fire domination over them. There is a clear distinction between fire control in the advance and in defence:

a. During the assault and before the fight through, an individual will open fire on any enemy he sees within range.

b. In defence, however, no one will open fire except on the specific orders of his sub-unit commander. Details of fire control orders are given in Infantry Training, Volume I, Skill at Arms, Pamphlet No. 2, Fieldcraft and Fire Control (All Arms) 1976 (Army Code No. 71061).

Manoeuvre

0114. Manoeuvre requires practised skill and implies movement suited to the ground and the tactical situation. A crucial part of any attack is the manoeuvre of infantrymen towards their objectives. Supporting fire is an obvious aid, but the effective use of ground will enable assaulting troops to close successfully with the enemy (*see* Fig 1).

0115. The section is split into a rifle group and gun group. With the present weapons system the gun group has the GPMG, and the rifle group has MAW. In the future when a section breaks down into two fire teams each will be armed with a light support weapon and will have LAW, and probably a rifle grenade launcher also. In either case the principles of fire and manoeuvre apply.

0116. MAW may not always be carried in the attack, in which case Nos. 1 and 2 may join the rifle group (No. 1 carries an SMG). When MAW is carried Nos. 1 and 2 must, of course, manoeuvre together.

0117. On occasions the GPMG No. 2 may be used in the rifle group in the attack.

0118. Normally advancing infantry will move at a steady pace, in order to arrive fresh on the objective. Running or crawling should be avoided except where necessary to gain surprise or to move from cover to cover. When fairly small open spaces have to be crossed it will often be best for a whole section to run across together before the enemy can react. Equally, when attackers are engaged by enemy fire, they must get through it as quickly as possible.

0119. At all stages of manoeuvre it is the correct use of ground which will lead to success. Too much reliance must not be placed on covering fire as a substitute for concealment from the enemy.

Control of Platoon

0120. The platoon commander must always be able to exercise control over his platoon by whistle, voice or field signals. He must be close enough to read the battle but must not get involved in the initial fire fight. The

standard field signals are given at Annex A. They may be preceded by a whistle blast to attract attention.

0121. No part of the platoon must ever be beyond the potential support of some other part.

0122. Depending on circumstances platoon HQ may either be kept together or be split up, e.g.:

a. Platoon commander with his signaller and runner (drawn from a section).

b. Platoon sergeant and light mortar. (Type A infantry battalions have only a No. 1 light mortar, Type B battalions have a No. 1 and a No. 2).

0123. There may also be occasions when the light mortar will be pushed ahead towards or with the point section, in order to permit efficient use of its range.

0124–0126. *Reserved.*

SECTION 3—SECTION FORMATIONS

0127. The basic section formations are:

a. Single File.

b. File.

c. Arrowhead, including spearhead.

d. Diamond.

e. Extended Line.

These are shown in Figs 2–7, in which members of the rifle group, acting as scouts, are shown in black, rifle groups in blue and GPMG groups in green.

Single File

0128. This is useful for following linear features such as hedges, ditches, walls and narrow tracks. A possible Order of March is shown in Fig 2.

0129. Each man must follow in the path of the leading man. The advantages and disadvantages of single file are:

a. *Advantages.*

(1) Least vulnerable to fire from a flank.

(2) Useful for moving along linear features such as hedges or ditches which give cover.

(3) Good for control on a very dark night.

(4) Good for negotiating a narrow gap in an obstacle, e.g., minefield.

(5) The only possible formation in some conditions, e.g., thick jungle.

b. *Disadvantages.*

(1) Bad for fire production to the front.

(2) Vulnerable to frontal fire.

(3) Bad for observation to the flanks as men tend to allow their eyes to rest on the person in front of them.

(4) Passage of commands and information is slow.

File

0130. File may be used when a path or track is wide enough to permit alternate men to move on opposite sides of the track. A possible order of march is shown in Fig 3.

a. *Advantages.*

(1) Easy to control.

(2) Useful formation at night.

b. *Disadvantages.*

(1) Presents a concentrated target.

Arrowhead

0131. Arrowhead is probably the best for moving on a broad front in open country. Spearhead is a variation of arrowhead which can be used where there is no need to deploy the gun group to one particular flank. It is therefore kept in the centre ready to deploy to either flank should the need arise (*see* Figs 4 and 5).

a. *Advantages.*

(1) Less vulnerable to frontal fire.

(2) Good for fire production.

(3) Good for crossing open country.

b. *Disadvantages.*

(1) Control more difficult than in some formations.

(2) More vulnerable to enfilade fire.

Diamond

0132. Diamond is often used when crossing open ground at night (*see* Fig 6).

a. *Advantages.*

(1) Easy to control.

(2) Very good for fire production.

(3) Good all round observation and protection.

b. *Disadvantages.*

(1) If too concentrated, presents a vulnerable target.

Extended Line

0133. Extended line is used on occasions as an assault formation but is difficult to control (*see* Fig 7).

Choice of Formation

0134. A section will deploy when it is likely to come within range of enemy fire. The formations used will depend upon:

a. Ground.

b. Direction from which enemy fire is expected.

c. Visibility.

d. Control by section commander.

e. The need for producing the maximum fire with the minimum delay.

f. The air situation.

0135. The second-in-command of the section (IC gun group) should whenever possible be able to see the section commander. When this is not possible he must maintain contact with a flank member of the section who will relay orders and signals.

Intervals

0136. The gun group should normally be on the open flank or the flank which gives the best intermediate fire positions such as undulating or higher ground. It is not possible to lay down the distance between soldiers since this will depend on the ground, but as a general rule the dispersion of the whole section and platoon on the battlefield should be up to the limit of control.

0137. Under fire, troops tend to bunch together instinctively. As a guide, in open country by day the interval between soldiers should not be

less than six paces. Distances between groups cannot be laid down, but except in the actual assault both groups should, if possible, be within voice control of the section commander. Hand signals are a simple effective method of control, particularly when the noise of battle prevents you being heard.

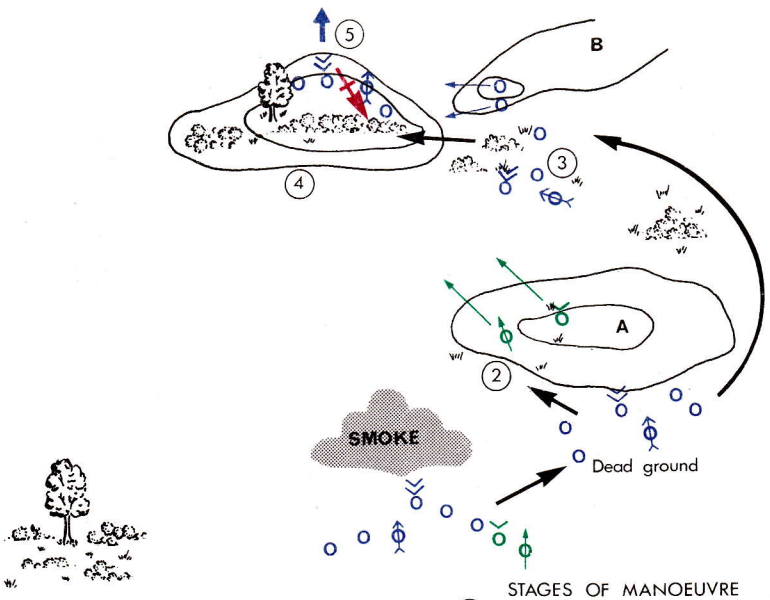
Manoeuvring Techniques

0138. During the advance, the section commander will manoeuvre his section to make the best use of cover. Changing formation like all movement on the battlefield should be carried out at the best possible speed. Hand signals will ensure effective response to the section commander's orders.

0139. When the platoon is deployed, the section commander is still responsible for the protection of his section and may detail scouts or sentries for this purpose.

0140. Commanders must not stick rigidly to a set formation, but must select the best size and shape of formation to suit the terrain and tactical situation.

0141–0145. *Reserved.*



STAGES OF MANOEUVRE

1. Section under effective fire, fire returned, section moves to dead ground under cover of smoke
2. GPMG Gp moves forward to fire position at 'A'
3. Rifle Gp moves to final assault position using cover or fire and manoeuvre in two Gp's
4. Four men assault covered by two others at 'B'. Grenades may be used if final assault position in range. Position cleared and checked by men working in pairs. GPMG Gp and two men rejoin
5. Reorganize on the line of advance

(1)

Section Axis

GENERAL NOTE

It is possible that MAW would not be carried.

Fig 1.—An Example of Section Fire and Manoeuvre (GPMG Gp of 2)

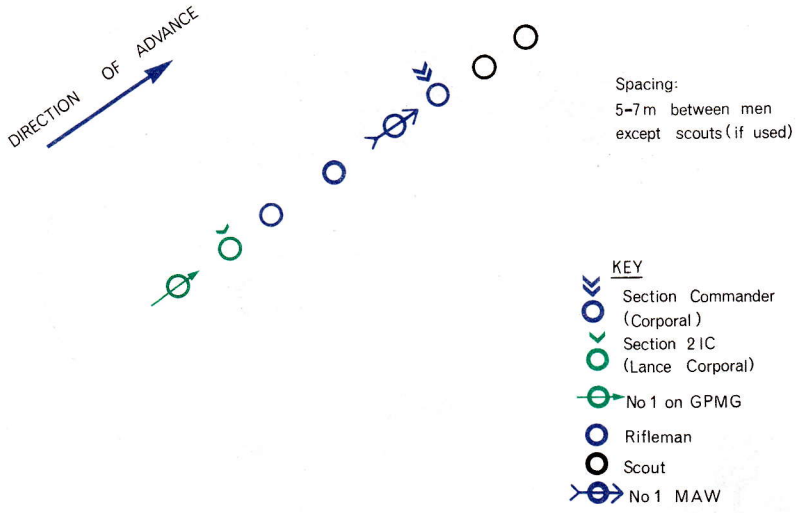


Fig 2.—Single File

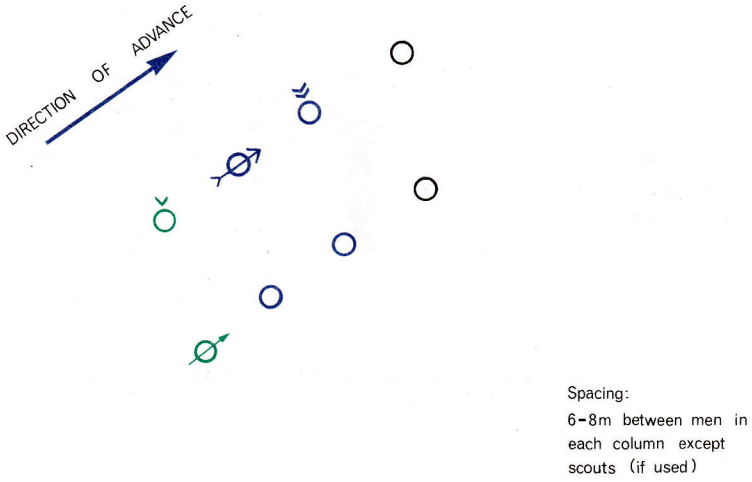


Fig 3.—File

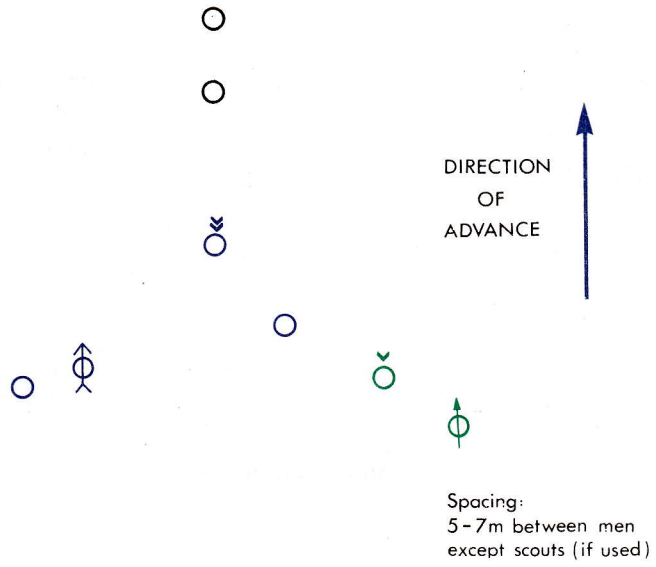


Fig 4.—Arrowhead

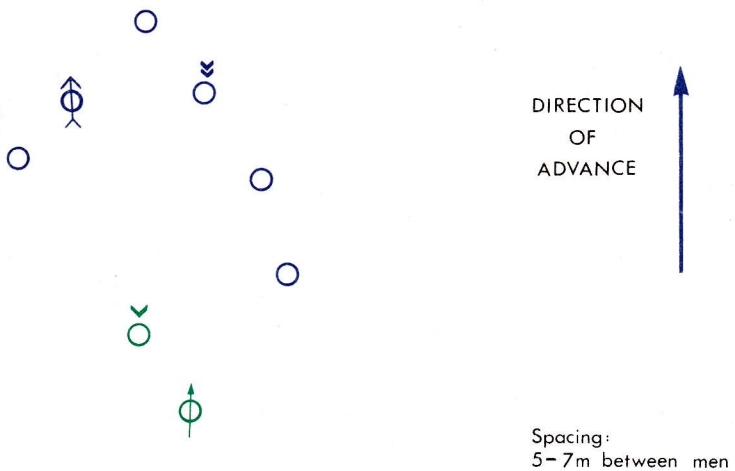


Fig 5.—Spearhead

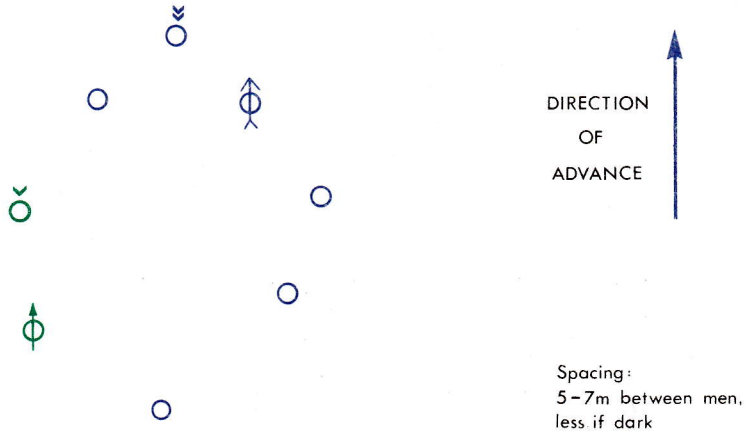


Fig 6.—Diamond

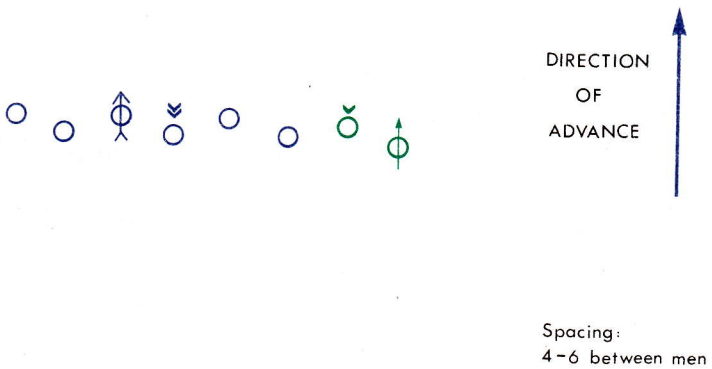


Fig 7.—Extended Line

SECTION 4—PLATOON FORMATIONS

General

0146. Platoon formations depend largely on the need for control and the degree of manoeuvre which the platoon commander requires. He must always have his platoon in a balanced formation and, if at all possible, should have a reserve. In the attack the width, depth and layout of the objective must be considered. For example, when advancing against an unlocated enemy, the platoon commander will wish to keep the bulk of the platoon uncommitted to enable him to manoeuvre and destroy the enemy when their position is located. On the other hand, in the assault on a known enemy location, the platoon commander will probably wish to bring the maximum strength on to the objective at the same time.

Basic Formations

0147. There are three basic formations for a platoon:

a. *One Up.* Often used in open country against unlocated enemy (*see* Fig 8).

b. *Two Up.* Used when the platoon is covering a wide front, or in the attack, when the objective calls for two sections to assault simultaneously (*see* Fig 9).

c. *Column.* When a platoon is moving along linear features such as tracks and roads (*see* Fig 10).

0148. The formations or position of each individual shown in Figs 8–10 are not rigid. The exact formation will depend on the ground, the role of the platoon and the nature and disposition of the enemy. For instance, in the 'Two Up' formation:

a. 3 Section could move across behind 2 Section; this would then show a platoon moving in column with one section on the left, probably for flank protection.

b. The spacing between sections will be governed by the requirement for control by the platoon commander, balanced against the necessity for dispersal to avoid:

(1) Casualties from artillery and mortar fire and air attack.

(2) All three sections being engaged simultaneously early and thereby depriving the platoon commander of an uncommitted reserve and of his ability to manoeuvre.

0149—0150. *Reserved.*

SECTION 5—SECTION BATTLE DRILLS

Section Battle Drill 1—Preparation

0151. ***Preparation for Battle.*** Check:

a. That personal camouflage is correct. It should break up the outline of the steel helmet, equipment and shoulders by using scrim, net, face veil and local foliage typical of the ground over which the section is to operate.

b. That weapons are clean, serviceable and correctly oiled. Set sights at 300.

c. That ammunition is clean and magazines and grenades are properly distributed. Flank men in open country should have smoke grenades, depending on the direction of the wind.

d. That the radio is working.

0152. ***Section Commander's Orders.*** The section will number off before orders are given out under normal headings, i.e.:

a. GROUND. To include reference points if possible.

b. SITUATION.

(1) Enemy forces.

(2) Friendly forces. Outline company plan. Details of platoon formation and task.

c. MISSION. The section mission.

d. EXECUTION.

(1) Route, if applicable.

(2) Section formations.

(3) Flank for GPMG.

(4) Position for MAW.

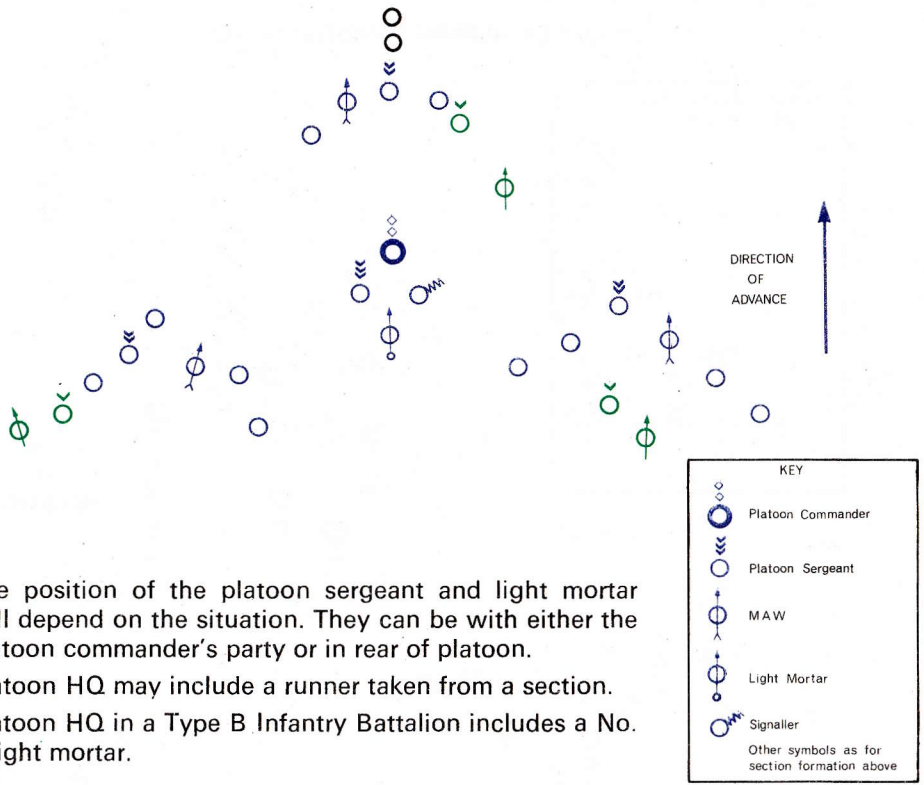
e. SERVICE SUPPORT. Any necessary information from the platoon commander's orders.

f. COMMAND AND SIGNAL. Any necessary information from the platoon commander's orders.

0153. ***Reference Points and Anticipatory Orders.*** In the advance to contact, the section commander will plan and give his anticipatory orders:

a. Positions giving cover in the event of effective enemy fire, e.g., *"If we come under fire GPMG group take cover in scrub, rifle group line that bank"*.

b. Reference points for fire orders. Two or three should be picked out. These must be given when a section is firm on a bound, not while it is moving.



Notes:

1. The position of the platoon sergeant and light mortar will depend on the situation. They can be with either the platoon commander's party or in rear of platoon.
2. Platoon HQ may include a runner taken from a section.
3. Platoon HQ in a Type B Infantry Battalion includes a No. 2 light mortar.

Fig 8.—Platoon Formation—One Up

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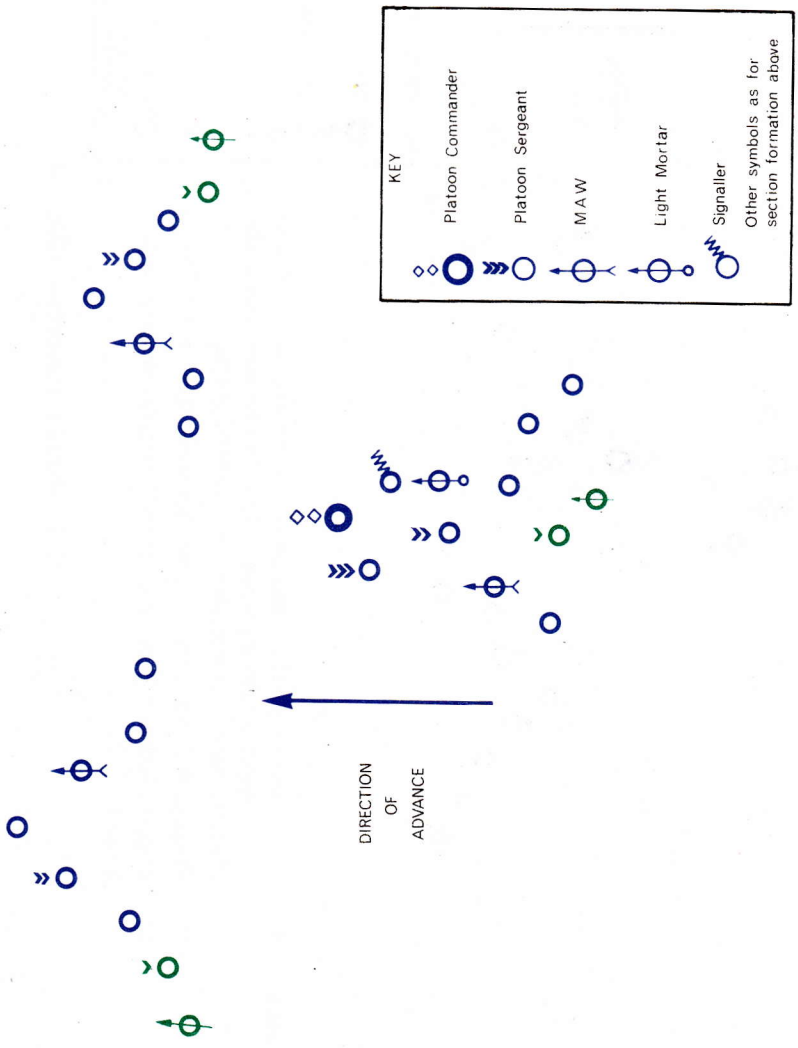

Fig 9.—Platoon Formation—Two Up

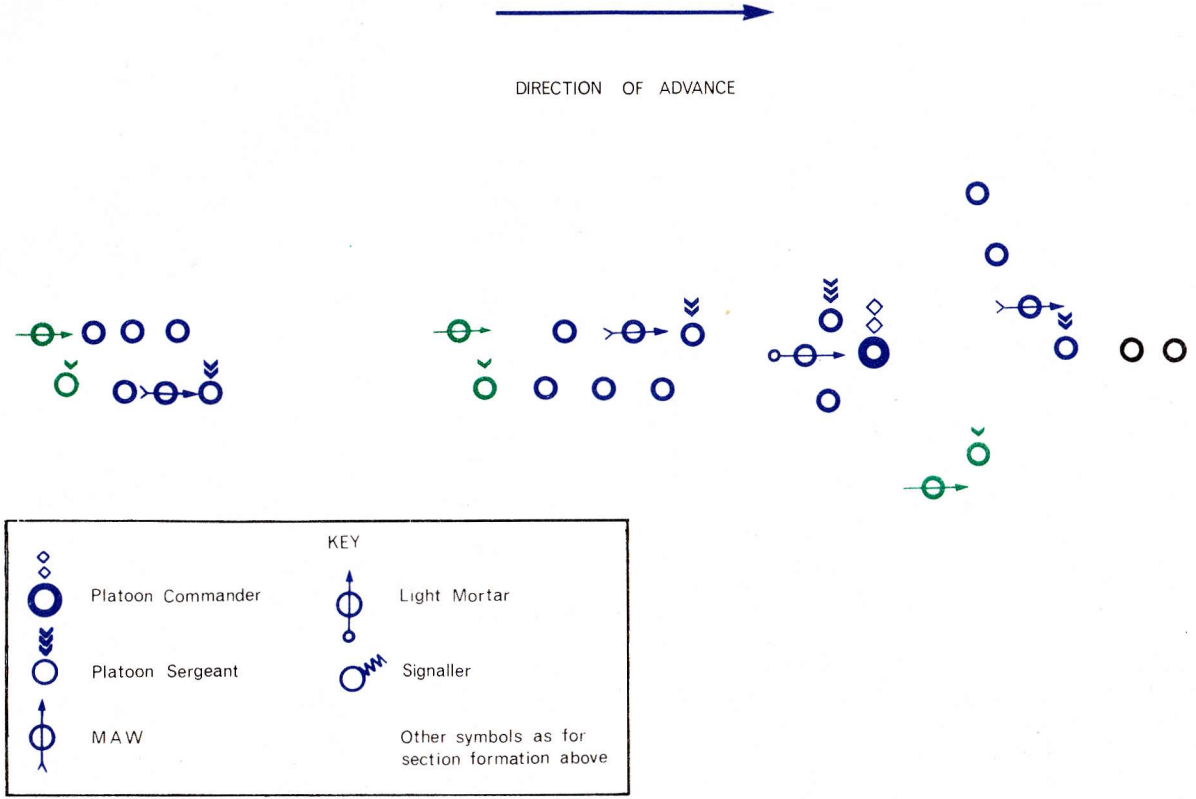

Fig 10.—Platoon Formation—Column

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Section Battle Drill 2—Reaction to Effective Enemy Fire

0154. Sections must be trained to continue the advance in spite of the noise of fire directed at someone else and regardless of stray rounds amongst them. Effective enemy fire is fire which would cause heavy casualties if the section continued on its course.

0155. The reaction to effective fire must be for the whole section to get off the killing ground immediately. They must move to the nearest cover already pointed out by the section commander in his anticipatory orders, or to the cover to which the section commander dashes if no orders have been given. Every man, arriving near where he wishes to take cover, will get down then crawl into the chosen position from the rear. He will then be in a position to observe.

0156. Every man in the section will then observe, and return fire, with tracer if possible, to indicate the enemy's position. If the enemy is not seen the third battle drill to locate the enemy should be used.

0157. The drill for getting off the killing ground, therefore, is:

Dash—down—crawl—observe—sights—fire.

Section Battle Drill 3—Location of Enemy

0158. Location of enemy fire is usually difficult. Failure to locate the enemy may prevent the section from moving without suffering heavy casualties. It may lead rapidly to loss of initiative by the section and the halting of the platoon advance. There are three stages in this drill:

a. *Observation.* Look in the area from which the thump came. The time between the crack and the thump gives a clue to the range, each second represents 600 metres. Look for movement, smoke, radio antennas or anything unusual. If nothing is seen after about thirty seconds or so, it is unlikely that the enemy will be located by looking.

b. *Fire.* The section commander will give a fire order to two riflemen to fire shots into likely cover. The rest of the section will keep a careful watch on their arcs of observation. If there is no answering fire, the section commander should try some other likely target.

c. *Movement.* If there is still no reaction by the enemy, the section commander will order two men to get up and double forward about ten metres to different cover. He might do this again if no fire is drawn the first time. A man getting up and dashing ten metres is a very hard target to hit. If there is still no enemy reaction, the section commander must carry on with the advance.

0159. ***Target Indication.*** If any soldier should locate the enemy before his section commander, he will load tracer in his rifle, shout out loudly "*Watch my tracer*" and fire until the section commander gives a fire order on the strike of the tracer. If no loose tracer rounds are available some can be extracted from GPMG mixed link belts.

Section Battle Drill 4—Winning the Fire Fight

0160. As soon as the section commander knows the enemy's position, he must give a fire order to bring sufficient weight of fire on the enemy to neutralize him. If one or more men who have spotted the enemy have begun firing, the section commander regains control by shouting "*Stop*" before he gives his fire order. While winning the fire fight, the section commander must make his battle appreciation. Having won the fire fight, the section commander must keep the initiative by ensuring that further fire is brought down on the enemy while his section closes in for the assault.

Section Battle Drill 5—The Attack

0161. ***Battle Orders.***

a. Battle orders will be as brief as possible. There is no need to mention the enemy position if this is known to all concerned. The mission will have been given out before the attack began but may need modifying. The battle order will always be one of the following, depending on the number of stages in the attack:

(1) For a one stage attack, that is one in which the rifle group goes straight in to the assault:

(*a*) Left or right flanking.

(*b*) Rifle group prepare to assault (gun group fire).

(*c*) Rifle group move.

(2) For a two stage attack, gun group moving to another position before the rifle group's assault:

(*a*) Left or right flanking.

(*b*) Gun group move first to . . . Prepare to move.

(*c*) Rifle group fire (gun group move).

(3) For a three stage attack in which the rifle group moves first, then the gun group moves and finally the rifle group assault:

(*a*) Left or right flanking.

(*b*) Rifle group moves first to . . . Prepare to move (gun group fire).

(*c*) Gun group moves (rifle group fire).

(*d*) Rifle group prepare to assault (gun group fire).

(*e*) Rifle group moves (gun group fire and switch).

b. The orders in brackets will be unnecessary with a really well trained section. The gun group will fire or move automatically on the previous order to the rifle group. Left or right flanking merely indicates which side of the gun group the rifle group is to work.

0162. ***The Advance.***

a. Fire and Manoeuvre (F & M) will be used to take the section onto the objective, and to fight through it. The section commander will lead the rifle group. Often it is impossible for the section commander to control the gun group at this stage and so the gun group controller must if necessary use his own initiative to get into the best fire position from which to support the section's attack (if it has to move). The gun group must use F & M. The gun moves whilst the gun controller and the No. 2 give covering fire. The GPMG will be a prime target for the enemy so best use of ground and other aids such as smoke must be used if the GPMG has to move.

b. All movement in the open by either group must, if at all possible, be covered by the other. The angle between the two groups should be as near to 1600 mils as possible—to allow the most efficient fire support for the assault.

c. If in the initial stages of the assault the section commander wishes to move the GPMG he can help out by using the rifle section to give covering fire so that the gun can move. This can be repeated at any stage of the attack but the more times the GPMG moves the more vulnerable it becomes.

d. The best way of controlling F & M in the attack is for the section commander to lay down a limit of F & M from the assault position (e.g., *"To the track 40 metres short of the enemy's position"*). The rifle group will then F & M in pairs or as individuals with only a minimum of control. Once at the limit of F & M the section commander regains control for the assault and fighting through stage.

e. While teaching it is important to emphasize that the movement of the individual must be done in the following way: the soldier crawls or rolls out of his old fire position, gets up and zigzags forward for 5–10 metres, to his next fire position. Only when he is there and ready to fire should his partner move.

0163. ***The Assault.***

a. On arrival at the limit of F & M the section commander must quickly organize his section for the final assault and fighting through

stage. He must get a real grip on the rifle group at this stage, as everyone will be tiring.

b. At section level the objective is likely to be small, perhaps a single trench, sniper or pill-box. A stalk by one or two men with grenades could be the final solution. The LAW or MAW could also be effectively used just before the assault goes in.

c. Whatever the numbers assaulting, the assault must go in as quickly as possible, under the supporting fire of the rest of the section.

d. As the assault goes in, the gun group will fire at the objective for as long as possible and then switch its fire across the objective just in front of the assaulting riflemen. The gun controller must be alert to deal with any previously unseen enemy post which may be concentrating its fire on to the assaulting troops.

0164. ***Fighting Through.***

a. When the rifle group arrives on the objective it must fight through using F & M.

b. As individual enemy posts are tackled fire support must be given. Exposed flanks must be watched for enemy fire. Local smoke can be used to mask off enemy interference at this stage.

c. The gun group must be very alert at this stage to enemy interference from beyond or from the flanks of the objective. It must also be ready to move forward automatically as soon as the rifle group is established on the objective.

Section Battle Drill 6—Reorganization

0165. Immediately the objective is taken the section commander must start to reorganize. This must be done very quickly in order to be ready for a possible counter-attack. The following must happen:

a. The section commander will:

(1) Allot fire tasks to each rifleman, MAW team and gun group.

(2) Detail and post sentries.

(3) Check on casualties and ammunition, then report details to the platoon sergeant.

(4) Arrange for redistribution of ammunition.

(5) Supervise digging of shell scrapes.

(6) Ensure that prisoners and captured equipment are sent to platoon HQ.

(7) Report to the platoon commander for further orders.

b. The gun group will:

(1) Rejoin the rifle group as quickly as possible once the section has gone firm on the objective. Often the section commander will give a pre-arranged signal for the gun group to close up if they have not done it automatically.

(2) Check the gun and ammunition.

c. Riflemen will:

(1) Check weapons and equipment.

(2) Check ammunition and grenades.

0166. *Reserved.*

SECTION 6—PLATOON BATTLE DRILLS

Platoon Battle Drill 1—Battle Preparation

0167. ***Signals.*** Confirm the signals to be used for communication within the platoon. The platoon commander may use a whistle for attracting the attention of his section commanders, if they have not got radio. One man in each section should be detailed as 'link' man who should watch the platoon commander at all times.

0168. ***Formations.*** Decide on the type of formation to be used. The normal formation for a platoon advancing on its own is one section up and the battle drills are laid down to suit this formation. The 'point' section commander must keep control of his section. When advancing along the axis of a road in country where there are thick hedgerows, he must therefore have his complete section on one side of the road or the other.

0169. A platoon taking part in a company or bigger attack may advance to the assault with two sections up. This reduces the scope for manoeuvre within the platoon but usually fits in with the higher plan of assault and fire support. In such cases, each leading section may even have its predetermined objective detailed before it crosses the start line. A platoon well trained in the drills for advancing with one section up will have no trouble modifying them to suit two up.

0170. ***Control.*** As already stated (paragraph 0120) the platoon commander must always be able to exercise close control and he must ensure that each part of his platoon is within range of the potential support from some other part. Platoon HQ may either be kept together or be split up, possibly with the platoon commander and his signaller and runner in one group and the platoon sergeant and light mortar in another. There is no

hard and fast rule. Indeed, there will be occasions when the light mortar is pushed ahead towards or with the point section, in order to permit efficient use of its range. Alternatively, if there is an imminent tank threat, the platoon commander may detach a MAW team from a section to operate under his personal control.

Platoon Battle Drill 2—Reaction to Point Section Coming Under Effective Enemy Fire

0171. This drill is carried out in three stages. It is triggered by the point section coming under effective fire and moving off the killing ground to cover. The whole platoon then prepares for an attack as shown below.

0172. ***Stage One.***

a. The platoon commander gets into a position of observation and sends a contact report to the company commander.

b. The platoon sergeant gets the rest of the platoon as far forward as possible while keeping them out of the fire fight.

c. As soon as the rear sections have been well placed behind cover by the platoon sergeant he will summon the two section commanders and hold them ready to go to an 'O' Group.

0173. ***Stage Two.***

a. When the platoon commander realizes that the enemy position is too strong for the point section to attack, he will make a battle appreciation and will send the runner to the platoon sergeant with a Warning Order giving:

(1) RV for O group.

(2) RV for platoon.

(3) Any administrative or grouping changes, e.g., light mortar/MAW or extra GPMG and/or ammunition to the fire section.

b. He will then order the point section to act as fire section, and will indicate the direction of attack. He might put down smoke at this stage to allow the point section to move to a better position.

c. He will then report his intentions to the company commander.

0174. ***Stage Three.***

a. As soon as the runner arrives at the rear two sections the platoon sergeant will:

(1) Send the two rear section commanders to the O Group RV with the runner.

(2) Move the rest of the platoon to the platoon RV using the most suitable tactical formation.

(3) Organize the administrative/grouping changes given in the Warning Order.

b. The platoon commander, with his party, is simultaneously moving to the O Group RV, where he gives his battle orders.

Platoon Battle Drill 3—Battle Orders

0175. The platoon commander will give battle orders to his O Group. The only headings necessary are:

a. Enemy position, strength and weapons.

b. Mission.

c. Left/right flanking.

d. Position of fire section.

e. Route to assault position.

f. Section tasks: 1 Sect . . . 2 Sect . . . 3 Sect . . .

g. Any special tasks for light mortar/MAWs.

h. Limit of exploitation.

i. Any variation to battle drills, e.g., reorganization, ammunition to fire section.

0176. At the end of his orders the platoon commander with his O Group will rejoin the rest of the platoon in the platoon RV where he will brief the platoon sergeant. Meanwhile the section commanders will give orders to their sections.

The Approach

0177. The leading section for the move to the assault position is the section which was moving on the flank chosen for the assault; the left rear section therefore leads when the platoon is left flanking and the right rear section when it is right flanking. The platoon commander will normally lead this move, signalling to the leading section to come past him on arrival in the assault position, so that he is then placed centrally.

0178. In the assault position, when left flanking is ordered, the leading section forms up on the platoon commander's left and when right flanking is ordered it forms up on his right.

0179. In the move to the assault position, platoon HQ will move behind the leading section. In the assault the platoon commander will be accom-

panied by his runner and signaller while the rest of the platoon HQ move in rear under the sergeant. If no task is given to the light mortar, it should go with platoon HQ on the flanking move.

0180. When moving to the assault position, if the platoon meets opposition from further to the flank, the drill is for the leading section GPMG group to drop off to neutralize it. If the enemy fire is severe, the assaulting sections will have to halt while the platoon sergeant is detailed to switch the light mortar to screen off the assaulting sections' line of advance from the new enemy position. If the platoon meets the opposition actually in the covered approach, this must be cleared before the attack can continue. The drill is for the leading section to act as it would when point section in the advance. If this section cannot overcome the opposition, the platoon commander will order it to act as another fire section while he assaults the new opposition with his third section.

The Assault

0181. When the assaulting sections arrive in the assault position the platoon commander will quickly check that all his men know the objective by pointing out the axis, give the order to assault and lead his platoon onto the enemy position. As the assault goes in the fire section will increase its rate of fire at the enemy for as long as is safe and then switch across the position in front of the assaulting troops.

0182. When the assault sections have arrived on the objective they have to overcome all remaining enemy resistance by fighting through the objective as described in Section Battle Drill 5 (paragraph 0164). It must be remembered that the position will be mutually supporting and is likely to be held in greater depth than any position a section is likely to assault. This is a crucial stage of the battle, requiring courage, determination and control by both the platoon and section commanders, to ensure the momentum of the assault is maintained and that the position is completely cleared of enemy.

0183. An example of a standard platoon attack from the flank is shown in Fig 11.

Variations

0184. Variations are:

a. Putting in a quick flank attack with one section, holding the third section in reserve.

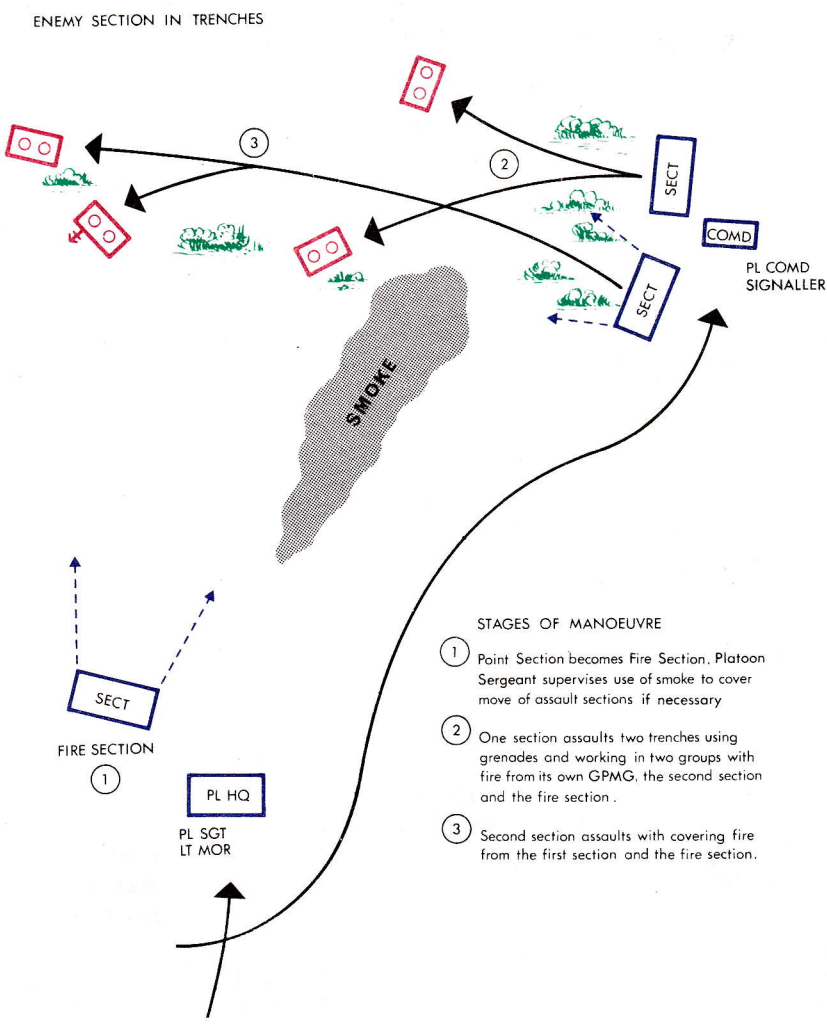


Fig 11.—Example of a Platoon Assault From a Flank

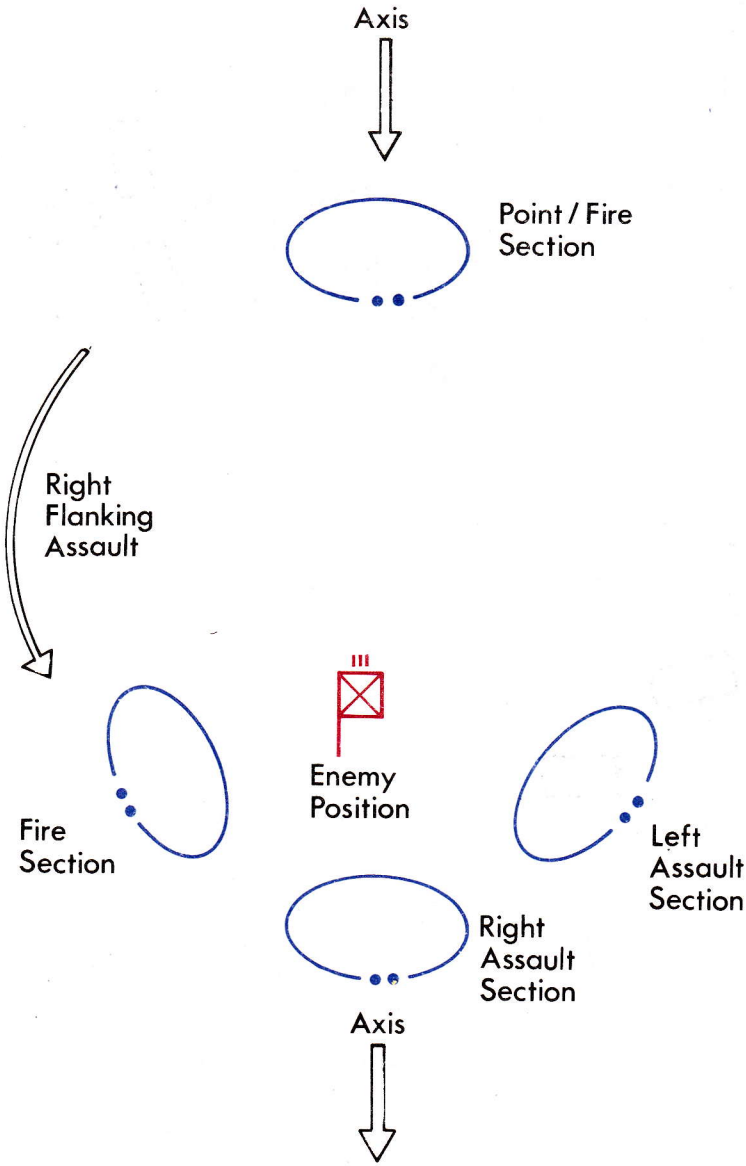


Fig 12.—Platoon Attack—Reorganization

b. Stepping up the fire power of the point section with an extra GPMG or even another complete section; in this case the platoon sergeant will usually be ordered to take control of the supporting fire.

c. Possibly using the point section as an assault section, and one of the others as fire section. The ground may dictate this.

Platoon Battle Drill 4—Reorganization

0185. The aim in the reorganization phase is to set up a hasty defensive position in order to withstand possible counter-attacks. There are many factors that will determine where the platoon should/can reorganize, in relation to the enemy position. The main factor will be the ground, but in siting the reorganization position as many of the normal principles of siting a defensive position should be applied as is practicable. As soon as the position has been sited shellscrapes should be dug as quickly as possible, unless the advance is to continue at once. As soon as possible the platoon commander and platoon sergeant must start to go through their check lists as given below. Sections should take up positions as shown at Fig 12.

0186. On reorganization the platoon commander should:

a. Ensure that the fire section rejoins (which it should do automatically).

b. Set up his HQ in the centre of the position.

c. Send a short SITREP to the company commander—"*Position captured—reorganizing*".

d. Confirm siting of sections to include arcs for GPMG and MAW.

e. On receipt of the platoon sergeant's report send full SITREP on enemy, casualties, ammunition and equipment.

0187. The platoon sergeant should:

a. Organize a party of two men per section who report to him automatically bringing with them the section state on ammunition, casualties and equipment.

b. Using the working party of six:

(1) Evacuate casualties.

(2) Redistribute and replenish ammunition.

(3) Search enemy dead.

(4) Escort prisoners to company HQ.

c. Give ammunition and casualty SITREP to the platoon commander as soon as possible.

0188. Section commanders on reorganization should:

a. Allot arcs to riflemen, gun group and MAW team, and await confirmation of these by the platoon commander.

b. Liaise with flanking sections on arcs.

c. Send two men to the platoon sergeant to act as a working party, and to convey the section ammunition, casualty and equipment SITREP.

0189. The reason for establishing a working party under the platoon sergeant is that this will permit section commanders to concentrate on the urgent task of the tactical reorganization. The platoon sergeant will take on all administrative tasks.

0190. *Reserved.*

SECTION 7—THE QUICK ATTACK

General

0191. A platoon or section quick attack is launched usually against hastily prepared enemy defences under the following circumstances:

a. When contact is first made during an advance or during a pursuit.

b. To overcome unexpected opposition during a deliberate attack, including fighting through the objective.

c. To seize an opportunity presented by a decline in enemy morale and their will to fight.

Combat Appreciation

0192. In making his plan the platoon commander should first consider the enemy; his intentions, strength, dispositions, weapons and arcs of fire. He must then consider approaches, and decide on the best approach to the enemy position examining them as follows:

a. Where is the most suitable ground to allow my assaulting sections to get to the objective, LEFT—CENTRE—RIGHT?

b. What covered approaches are there? Cover from view, cover from fire?

c. What is the shortest approach?

d. Can I surprise the enemy by going to a flank?

e. Are there any obstacles which will not only slow down my movement but make me vulnerable to enemy fire? How do I preserve life and maintain momentum over such obstacles?

f. Is there a good assault position? It might not be possible at this stage to select the exact position for the assault.

g. Does the ground offer positions from which I can get adequate covering fire?

0193. A comparison of the good and bad points of each approach will then result in selection of the best approach available.

0194. There is limited time for reconnaissance and/or organization of an elaborate fire plan. Nevertheless, artillery and mortar fire should be used against all but the lightest opposition. Fire and manoeuvre must be used, of course. The plan must be simple and executed quickly and with determination.

Stages

0195. There are five stages in the attack:

a. Preparation.

b. Flanking movement to the assault position.

c. The assault.

d. Fighting through the enemy position.

e. Reorganization.

Preparation

0196. In the quick attack this takes the form of:

a. Gathering of information—usually from reports, observation and the map.

b. Anticipatory orders—perhaps as a warning order.

c. Reconnaissance.

d. Appreciation and planning.

e. Orders.

Orders

0197. In the quick attack, time is limited. The platoon commander gives orders to his section commanders and, preferably, allows them a quick look at the ground. Section commanders then give orders to their sections. Examples of platoon orders for an attack are given in the Infantry Aide Memoire Part 3, The Platoon Commander's Aide Memoire (Army Code No. 71154).

The Frontal Attack

0198. This will probably be the most dangerous approach due to the

weight of enemy fire. Nevertheless, it provides the quickest possible solution and may be used if the platoon commander believes that a quick assault will succeed.

0199. The platoon must cover the ground as quickly as possible. F & M will be used only if the covering fire is ineffective.

The Flanking Attack

01100. To achieve surprise and minimize casualties a flank attack should be used by sections and platoons whenever possible. A flanking attack should be used when it offers a covered approach, and when the enemy is too strong to be attacked frontally.

01101–01105. *Reserved.*

SECTION 8—DELIBERATE ATTACK

General

01106. A deliberate attack is staged against well organized and strong enemy defences. Assaulting troops will often have little room in which to manoeuvre but this handicap is offset by additional time for reconnaissance and the preparation and co-ordination of the supporting fire of battalion weapons, tanks, artillery and aircraft. Most deliberate attacks are planned at battalion or company level and the platoon will operate as part of a larger force. However an independent platoon attack may be deliberate, for instance a raid on a small but well prepared and strong enemy outpost.

01107. The five stages of the deliberate attack are:

- **a.** Preparation.
- **b.** Movement to FUP or SL.
- **c.** Assault.
- **d.** Fighting through the objective.
- **e.** Reorganization.

Preparation

01108. In the deliberate attack the preparatory stages include:

- **a.** Warning order from company HQ.
- **b.** Receipt of company commander's orders.
- **c.** Time appreciation.
- **d.** Issue of warning order (if not issued before company orders).
- **e.** Reconnaissance.

f. Appreciation and planning.
g. Orders.
h. Rehearsal (if time permits).

01109. Platoon commanders will receive their orders from the company commander and upon these they base their own orders to section commanders. The section commanders in turn use the platoon orders as a basis for their section orders. Warning orders, reconnaissance, appreciation and orders have been covered fully in Part 1 Chapter 3. The preparation takes place in the assembly area and involves:

a. Final check of weapons, equipment and ammunition.
b. Camouflage.
c. Feeding or issue of rations.

Orders

01110. In a deliberate attack orders are given in detail using sketches or models to explain the ground and the plan. Platoon and section commanders usually view the ground from OPs, or during a patrol.

Move to the FUP and Start Line

01111. At this stage, the assaulting troops move forward from the assembly area to the FUP.

01112. Formation for the move from the assembly area to the FUP will depend on:

a. The speed of movement required.
b. Control.
c. The likelihood of enemy interference.
d. The going.

01113. In a company attack a platoon may be required to move ahead of the remainder of the assault troops to secure the FUP. In a platoon attack it may be necessary to use a section for the same purpose.

01114. In the deliberate attack the move into the FUP follows the completion of the preparatory stage.

01115. If time is short, the platoon commander will issue instructions to the platoon sergeant regarding the move to the FUP and forming up before his orders. The platoon sergeant and section seconds-in-command then control this movement. In this case the platoon commander must ensure that he briefs his sergeant in the FUP while section commanders are giving their orders for the attack.

01116. The platoon will normally stay in the FUP for as short a time as possible as it could be registered as an enemy DF task. Final orders or briefing may be carried out in the FUP but will normally be restricted to a final quick orientation.

01117. The FUP is normally as close to the objective as possible but not under direct fire or enemy ground observation. Smoking and noise must not be permitted in the FUP.

The Start Line

01118. The start line is the line which the assaulting troops cross at H hour. It must be clearly recognizable. It may be artificially marked by tape, or be natural such as a road or hedgerow. If possible it should be at right angles to the objective and must be secure from enemy interference. It is normally the forward edge of the FUP.

The Assault

01119. In a deliberate attack the rate of advance may be governed by the covering artillery and mortar fire, as assaulting troops move as close as possible to any covering fire provided. Platoon and section commanders must ensure their men advance at the planned rate.

01120. Supporting fire will cover the move forward. If it fails to neutralize the enemy fire and the platoon or section comes under effective aimed small arms fire, the platoon commander has the following alternatives:

a. Fight the platoon or section forward by fire and manoeuvre.

b. Ask for smoke to neutralize the enemy visibility and/or fire.

c. Request tank, artillery or mortar fire to deal with the enemy weapon or weapons and continue the attack.

Final Assault

01121. Artillery and mortars will continue to neutralize the objective until the last possible moment, but when this fire lifts, the attacking troops may be as much as 250 metres from the objective. They must close with the enemy as soon as possible after the indirect fire has lifted using the intimate support from tanks or their own fire to get forward.

Fighting Through the Objective and Reorganization

01122. In a deliberate attack the same drills will be carried out as in the quick attack but these stages of the attack are likely to be more prolonged than in a quick attack.

01123. Support fire from tanks will be of great value in dealing with well protected enemy MGs and bunkers.

01124. The regorganization may be the prelude to occupying the position for several days or longer.

01125. *Reserved.*

SECTION 9—NIGHT ATTACK

General

01126. The increasing use of night fighting devices such as battlefield illumination, observation devices, driving aids and individual weapon sights will make it far more difficult for the attacker to achieve surprise. Provided weather conditions are favourable the defender will be able to:

a. Obtain early warning of troops deploying against him.
b. Detect active enemy devices.
c. Engage the attacker with aimed or observed fire.
d. Deploy his patrols more efficiently.
e. Locate the attacker if he moves across open ground.

01127. However, the attacker will be able to move faster and navigate with greater ease. He will be able to detect and observe enemy movement and use aimed fire and observe indirect fire. The stages and conduct of a night attack by a platoon are basically the same as those for a daylight operation. However, three aspects require particular attention:

a. Simplicity of plan to assist control which is difficult at night.
b. Thorough reconnaissance, both by day and night, if possible.
c. Detailed preparations, including rehearsals.

01128. The introduction of night fighting aids and observation devices will not solve all the difficulties of control, but it will give the attacker more scope to manoeuvre in the approach and assault.

01129. The present methods of control are still applicable and modifications to the set piece night attack will depend upon the training of the troops taking part and the night fighting aids available to the attacker and the defender.

01130. The phases of the night attack will be dealt with as follows:

a. Movement to FUP and start line.
b. Movement to the objective.

c. Fighting through the objective.
d. Reorganization.

Movement to FUP and Forming Up

01131. In a company attack the start line, the FUP and routes to it may be marked by tapes, assault cable and/or lamps. Guides are provided to guide platoons into their exact forming up positions. In a platoon attack, section guides who have been rehearsed if possible, both by day and night, will lead sections from the assembly area to their exact positions in the FUP. These should be marked simply, for night identification. The night vision of the platoon must not be impaired by using lights before the attack. Those leading columns must remember to move slowly enough for those at the back to keep up. In the near future beta lights will be available down to platoon level for route and other marking tasks at night.

Movement to the Objective

01132. Aids to keeping direction are compass bearings, pace checkers, use of tracer ammunition, use of prominent landmarks, skyline features, movement light and the moon. Leaders may wear white or luminous objects on their backs.

01133. Changes in direction after leaving the start line should be avoided. Sections must maintain contact with the sections on their inside flanks. Depending on the ground and cover it is better for control if the assault formation is adopted in the final assault position rather than the FUP.

01134. Rates of advance will depend on the degree of darkness, the need for silence, the fire plan, obstacles, vegetation and the state of the ground. As a guide it will probably be about half the daylight rate. Men must move at a steady pace and know the action to be taken if the enemy uses flares or other means of illumination.

01135. Even when surprise has been lost, it is still best to exercise control with the minimum of shouting, as by listening the assaulting troops can gain valuable information of the enemy's whereabouts, and a silent approach can be unnerving for the enemy. One advantage of the night attack is the psychological effect upon the enemy whose doubts and fears are magnified by the unknown.

01136. The move to the objective, described above, requires the attacking troops to reach the final assault position without being discovered. If

the attack is discovered before this stage, the following will normally occur:

a. The company commander will call for pre-arranged supporting fire on the objective to neutralize enemy fire. Planned illumination will be called for to permit better control and more rapid movement.

b. Platoons should attempt to continue in their previous formations. If this is impossible, they must move forward using fire and manoeuvre. If they are close to the objective, the final assault can begin as soon as the attack is discovered.

01137. Scattered fire by small elements of enemy must not be taken as loss of surprise and should not be taken as the signal to begin the assault.

Fighting Through the Objective

01138. Fighting through is the most difficult stage of a night attack. It requires detailed training and rehearsal and must be done systematically to avoid confusion and to retain control. The plan should avoid passing one section or platoon through another at this stage. Particular points to be avoided are:

a. Converging on enemy weapon flashes.

b. Use of grenades above ground level.

c. Shooting without attempting first to distinguish friend from enemy verbally.

Reorganization

01139. The details for reorganization on the objective will be similar to the procedure used in daylight. However, there will often be confusion resulting from the fight through and mopping up on the objective. Co-ordinated defence may be difficult initially. In the darkness there is a tendency for sections to lay out their positions too close together. This can be avoided by very clear instructions for reorganization, careful liaison by section commanders and thorough and early co-ordination by the platoon commander. Commanders should pace out distances between trenches.

01140. Commanders must know pre-arranged DF and FPF tasks, and who can call for them. All members of the platoon must know the pre-arranged success signal flares.

01141. Any tanks or support weapons and their detachments which join the platoon during darkness must be protected and will need guides.

01142–01145. *Reserved.*

SECTION 10—NIGHT ATTACK WITH SURVEILLANCE DEVICES

(Mounted outside the Forward Edge of the Battle Area (FEBA) against an enemy with Surveillance Devices)

General

01146. Both the defender and attacker have gained many advantages by the introduction of surveillance devices but equally many well tried and recognized techniques will have to be adjusted to meet these new aids.

01147. The attacker must:

a. Assess the enemy's likely surveillance plan.

b. Make greater use of deception.

c. Make better use of ground.

d. Decentralize the control and execution of movement to company or platoon level.

e. Use most stealth in initial deployment.

Control and Movement

01148. Companies will be allotted objectives and boundaries and separate start points. Objectives will be smaller than by day and clearly defined. Companies will move to their FUPs along routes selected by the battalion commander. Platoons may use the same route moving at intervals or they may use separate routes to a company RV/check point (*see* Figs 13 and 14).

01149. When the FUP and start line are more than 150–200 metres from the objective and/or the enemy is using surveillance devices and/or the route forward from the start line is across broken country, it may be appropriate to keep in close formation until one is much nearer the objective. In this case a final assault position could be useful. This should not necessitate a formal halt. The momentum must be maintained as the sub-units shake out into their final assault formations to close with the enemy. This technique not only requires a high degree of training and control but also, preferably, some rehearsal.

01150. The routes forward should be cleared and protected by listening posts or small protection parties. A fighting patrol of about platoon strength will clear and safeguard the routes ahead of the rest of the company. This patrol will also undertake some or all of the following tasks:

a. Marking and, if necessary, lighting the routes.

b. Protecting the company RV and check point.

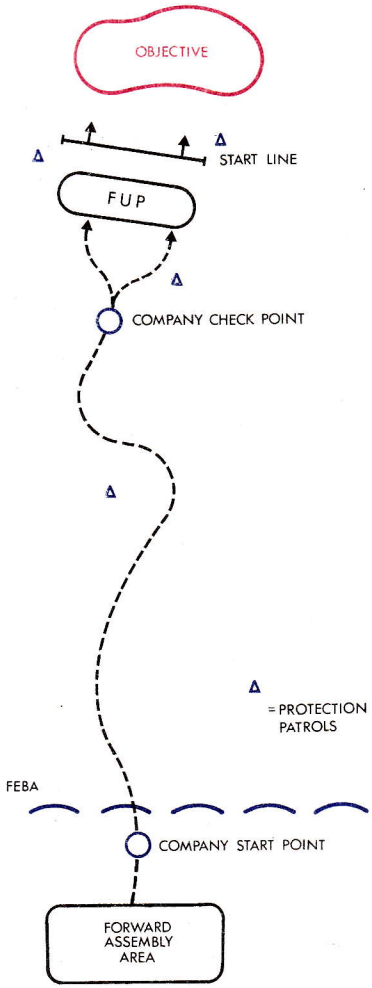


Fig 13.—Approach Using One Route

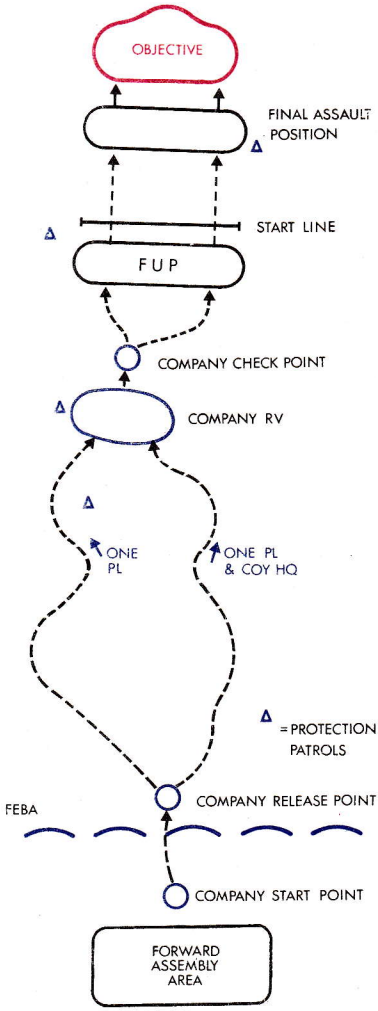


Fig 14.—Approach Using Platoon Routes

c. Guiding platoons forward to the start line. This will require some previous reconnaissance and must be very carefully conducted.

d. Observing the objective and if possible giving aimed fire support to the assault.

01151. H hour will still be the time that assaulting platoons cross the start line which normally will be the forward edge of the FUP. Within the battalion, companies may have a common H hour or separate ones.

01152. Night attacks may be silent or noisy but fire planning will be related to the illumination plan, the requirement to destroy or neutralize enemy night fighting devices and the deception plan.

Variations now Possible with Night Fighting Devices

01153. By using observation devices it will be possible to allot platoons a separate, definable part of the objective, such as a corner of a wood or a particular group of buildings.

01154. A company will not necessarily have to attack as a co-ordinated whole. Variations from the traditional night attack are:

a. Companies can allot objectives and boundaries within which platoons will move.

b. Within their allotted boundaries, company commanders can select their own routes to a company release point, at which platoons may diverge, on separate routes, to their final assault positions.

c. The final assault position should be as close to the enemy as possible.

d. The use of image intensification weapon sights permits gun groups to deliver observed covering fire for the final stages of the assault.

e. During reorganization platoons will find it easier to site positions and weapons than in the past.

Requirements

01155. The requirements for all successful night attacks are:

a. A high standard of training.

b. Information.

c. Detailed planning.

d. Simplicity.

e. Surprise.

01156–01160. *Reserved.*

SECTION 11—RESERVE PLATOON IN A COMPANY ATTACK

General

01161. Normally one rifle platoon is held as the company reserve during each phase of an attack. The company commander commits the reserve platoon when it is needed to influence the action and to maintain the momentum of the attack. This may best be accomplished by attacking in a new direction to hit a flank or the rear of the enemy to exploit the success of the attacking platoons. Because of the various tasks which may be given to the reserve platoon the platoon commander must know the missions and tactical plans of the assaulting platoons. He must also know as much as possible about the ground and enemy situation in the entire company area of operation and keep abreast of the tactical situation as it develops. Finally he must be capable of rapid and effective response when committed.

Tasks of the Reserve Platoon

01162. The reserve platoon may be required to:

a. Protect the flanks or rear of the company.

b. Maintain contact with adjacent units.

c. Clear a position which has been overrun or bypassed by the assaulting platoons.

d. Take over the mission of an assault platoon which requires relief or rest.

f. Attack from a new direction.

g. Protect or assist the consolidation and reorganization on the objective.

01163–01165. *Reserved.*

SECTION 12—ATTACKING TRENCH SYSTEMS AND STRONG POINTS

General

01166. Isolated enemy trenches are not normally difficult to deal with by section or platoon fire and manoeuvre. However, mutually supporting trench systems and strongly fortified posts are harder to overcome. In this section the following types of enemy position are considered:

a. Open trenches.

b. Trench systems.

c. Small bunkers.
d. Heavily fortified bunkers or pillboxes.
e. Tunnels.

Open Trenches

01167. Each trench may be assaulted by a complete rifle group covered by the complete gun group as illustrated in Fig 15. Airburst artillery or mortar fire should first be used if available to destroy or neutralize the enemy in the trenches.

Trench Systems

01168. When the enemy is occupying a continuous zigzag trench system, once the assault section has broken into the position it will divide into previously detailed groups to clear the trenches. A grenade group and a clearing group will be required. The grenade group throw grenades into the next section of the trench to be cleared. As soon as the grenades explode the clearing group dash in to complete clearing that section. This process is continued until the whole system has been cleared. Strict control by the section commander is essential.

Small Bunkers

01169. There are various methods of dealing with bunkers that are not too heavily fortified. In general, grenades or anti-tank weapons will provide the most effective means of attack; men armed only with rifles will be of little use on top of a bunker. Some methods of dealing with bunkers are:

a. A party of two to four men with HE and smoke grenades manoeuvre forward under cover of the fire of the section GPMG group or their own smoke. When they reach the inevitable blind spot of the bunker, they push grenades or prepared explosive charges through the apertures.

b. The section MAW closes within range of the bunker under cover of smoke. One hit should kill or knock out everyone inside the bunker.

c. When a LAW rocket is used to clear a bunker the hit must be quickly followed by the assault party using grenades to kill any survivors.

d. An example of an attack on a bunker is shown at Fig 16.

Tunnels

01170. Large tunnels may be dealt with in the same way as a trench system. Small tunnels are best dealt with by using CS gas to drive out

any enemy hiding within, the entrances and any exits being covered by a GPMG or two riflemen. Water traps may separate one part of a tunnel from another so unless the tunnel is to be blown in or sealed off one man may have to check it to see that it is clear. If CS has been used he would have to wear a respirator and should be armed with an SMG, with the butt folded if necessary. He will also need a torch and a telephone, connected to the surface by cable, for communication.

01171–01180. *Reserved.*

SECTION 13—THE RIFLE PLATOON IN THE ATTACK WITH TANKS

Dismounted

01181. It will be usual for tanks to support infantry in the assault whether it is dismounted or mounted. This section deals with the ways this support may be given to a dismounted assault. Details of infantry/tank target indication are given in Part I, Annex J. Tank troop drills and tactics are described in detail in Royal Armoured Corps Training, Armour, Volume 1, Part 1, The Armoured Regiment (Army Code No. 70590).

01182. The three methods of support are:

a. Tanks and infantry attack on one route.

b. Tanks and infantry attack on converging routes.

c. Tanks support by fire only from static positions.

01183. During an attack more than one of the three methods may be used; changes in the terrain or situation may require changes in the method.

Preparation for Infantry/Tank Attacks

01184. Careful preparation is essential before every attack. This should always include:

a. Reconnaissance.

b. Planning and co-ordination.

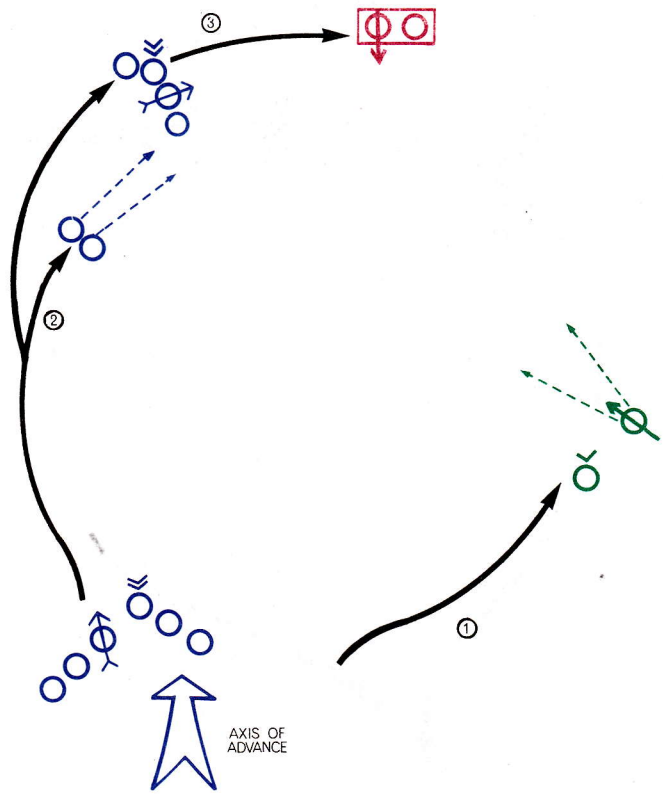
c. Orders.

d. Marrying up.

Planning and Co-ordination

01185. In the planning and co-ordination phase the following points must be decided:

a. The method of attack.



STAGES OF MANOEUVRE

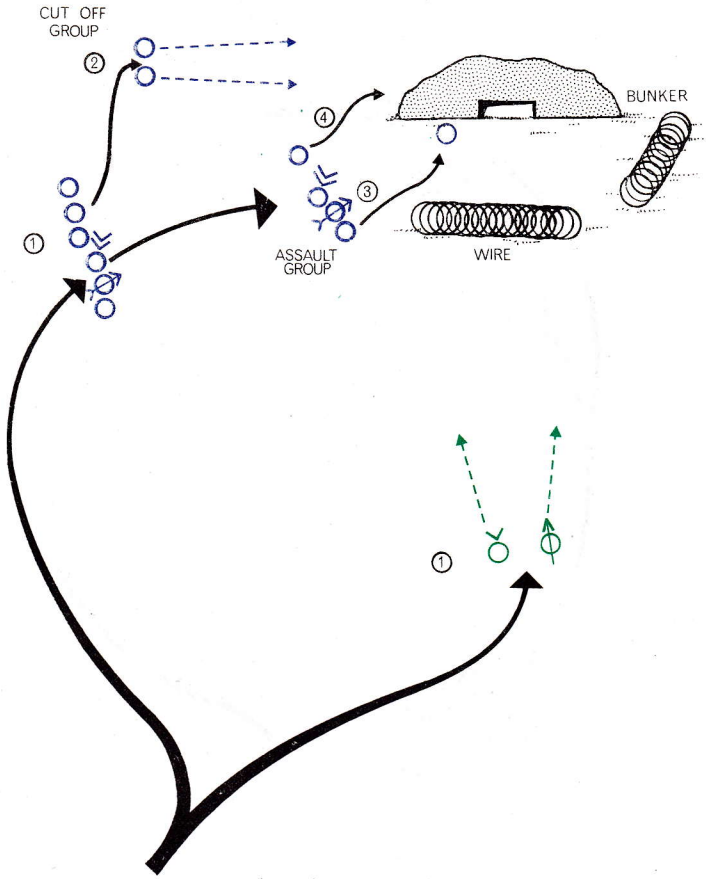
① Section comes under fire. GPMG Group moves to fire position under cover of fire from Rifle Group.

② Rifle Group move to assault position dropping off two men to cover the assault if necessary.

③ Rifle Group may throw grenades if within range and then assaults and fights through the objective covered by the Gun. Group and the other two riflemen

GENERAL NOTES. It is possible that the MAW would not be carried.

Fig 15.—Section Attack on Open Trenches
(GPMG Gp of 2)



STAGES OF MANOEUVRE

① GPMG Group gives covering fire. Rifle Group moves to assault position on flank using cover or dead ground

② Two men move to a cut-off position, if desirable.

③ One or two men crawl to where they can throw grenades into the slit. If necessary two other men cut any wire

④ Assault group follows up the grenades and deals with any survivors

GENERAL NOTES. It is possible that the MAW would not be carried. However MAW may be used to supplement the covering fire.

Fig 16.—Section Attack on a Small Bunker
(GPMG Gp of 2)

b. The routes to the objective for tanks and for infantry.

c. The formations to be used and where changes in formation may be necessary.

d. Speed of movement of tanks and of infantry.

e. Timings.

f. Distance between tanks and infantry.

g. Fire plan, including where and when direct and indirect fire will be lifted or shifted.

h. Communications and control.

i. Start line, which must be clearly defined, should preferably be square to the axis of the attack and must be secured by our own troops.

j. FUPs.

k. Position of tanks during reorganization.

l. How long after the completion of the attack tanks are to remain with infantry.

Forming Up Place

01186. Where infantry and tanks use the same FUP, which is normal, infantry will usually move into it first, the tanks coming in just before H hour so as not to prejudice surprise. In the dark, however, tanks may move in first, to avoid the risk of running over infantrymen, and to facilitate forming up. In this case, some special artillery activity is usually arranged to cover the noise of tanks moving into position. At times, the infantry may ride into the FUP on the tanks. When armour is the predominant arm in a quick attack and speed is essential, the pause in the FUP may be omitted and tanks may deploy with their infantry direct from the line of march.

Marrying Up

01187. As part of the marrying up process the tanks must know the infantry's plan for the assault and the infantry must know how the intimate support tanks intend to work and where tanks are to be located. Unless both are clear about these details their co-operation cannot be really efficient and could lead to unnecessary casualties. Radio communications and call signs must also be checked.

Conduct of the Assault

01188. The aim is to bring the maximum fire power of tanks, artillery and infantry to bear upon the enemy to create the greatest shock effect and

destroy him as quickly as possible with minimum casualties to ourselves. To achieve this aim forceful and decisive action is required, coupled with good timing.

01189. The assault is conducted as a co-ordinated effort. When the plan is for both tanks and infantry to go on to the objective, heavy fire from supporting artillery is brought to bear on the objective during the approach of the tanks and infantry.

01190. The intimate support tanks advance at their best speed aiming to arrive at the objective at the same time as the slower infantry. When in range they increase the overall volume of fire by saturating the objective with fire from their weapons. As the final assault begins, artillery and mortar fire is lifted or switched to the flanks or rear of the objective to prevent the escape of the enemy or break up counter-attacks. Direct fire from infantry and tank weapons then replaces the indirect artillery and mortar fire. The infantry close with and destroy the enemy in close combat and protect the tanks from short range anti-tank weapons. The shock effect of assaulting tanks and infantry is multiplied by rapid movement and a heavy volume of fire. During the assault, tanks continue to saturate the objective with machine gun fire and destroy strong points and weapons with their main armament. This assists the infantry in clearing the objective. As the tanks arrive at the far edge of the objective, fire is directed at the withdrawing enemy. This considerably reduces the enemy's ability to reorganize and counter attack.

01191. When tanks support by fire only, the infantry conduct the assault but take full advantage of the long range, rapid rate of fire, and accuracy of the tank weapons.

Reorganization

01192. When the objective has been seized, reorganization begins immediately. Leading tanks take up positions from which they can dominate the approaches to the position and engage any visible enemy.

01193–01200. *Reserved.*

SECTION 14—THE MECHANIZED PLATOON IN THE ATTACK

General

01201. In the mechanized attack every effort must be made to exploit the advantages which APCs confer on the infantry, while being careful not

to hazard the APC and the men within by exposing them unnecessarily to enemy anti-armour weapons.

Preparations

01202. The preparations for a mechanized attack are the same as for a dismounted attack, with the following additions:

a. Vehicle maintenance and refuelling are carried out.

b. APC mounted weapons are tested. Ammunition loads are brought up to the prescribed level.

c. All APC radios are checked and manpack radios set up and tuned to correct frequency.

d. Equipment stowage is checked.

Plan of Attack

01203. Particular points to consider include:

a. Formations.

b. Tactical control measures, i.e., timings, report lines, bounds and boundaries.

c. Action to be taken if APCs come under effective anti-tank fire.

d. Actions during and after dismounting, to include the use of APC mounted weapons for additional fire support.

e. Use of APCs during the reorganization phase.

Control

01204. The mechanized attack is controlled primarily by radio. In addition, field signals, flag signals, panels, light signals and coloured smoke can be used.

Formation for Movement

01205. As usual, the platoon commander must consider control, security, firepower, terrain and information about the enemy including the air threat when he selects the formations to accomplish his mission. As the platoon gets nearer the objective it may have to change formation to suit the situation. When fire is expected from known enemy locations, formations are used which permit the rapid concentration of firepower in that direction.

01206. Standard formations for platoon movement are given in Figs 17–21 (using 7 Platoon as an example). The position of the platoon HQ APC will vary according to the circumstances. When out of contact with the enemy it saves time if the platoon commander leads. Distances between

APCs will depend on the ground, visibility and the air threat. Formations should not be too rigid and each individual APC commander must make use of the best cover or going whilst keeping in his correct position relative to the other APCs.

01207. The platoon will normally be only part of a combat team. The basic combat team formations are the same as platoon formations. The company 2IC will often be responsible for moving the combat team with the team commander taking charge for the assault only.

01208. Mortar sections and anti-tank detachments may be placed under command of the combat team. The mortars will place themselves so that they are able to engage targets during the attack and on reorganization. The anti-tank detachments will be ready to move on to the enemy position on reorganization.

Conduct of the Attack

01209. The major concern of the platoon commander must be to maintain the momentum of the attack. He observes the situation, noting any evidence of enemy activity and the progress of friendly units. He keeps his company commander informed of the platoon location, terrain, enemy resistance encountered, and any changes in the situation. He calls for fire support as necessary.

01210. Mounted movement forward of the start line is made as rapidly as the terrain, APC speed, and supporting fire permit.

Closing of Hatches

01211. In the APC the rear door should always be closed when on the move, to get maximum protection.

01212. When the commander and driver are closed down they have restricted vision. Their hatches may remain open to assist them in navigation and control depending upon the effectiveness of enemy fire. In the mounted assault the hatches should be closed as normally the APCs will be under direct or indirect enemy fire.

01213. In nuclear and chemical conditions hatches should be closed at all times.

01214. If the APCs come under effective fire before they reach the planned dismounting area, the platoon commander must determine immediately when and where to dismount safely. Often the best course of

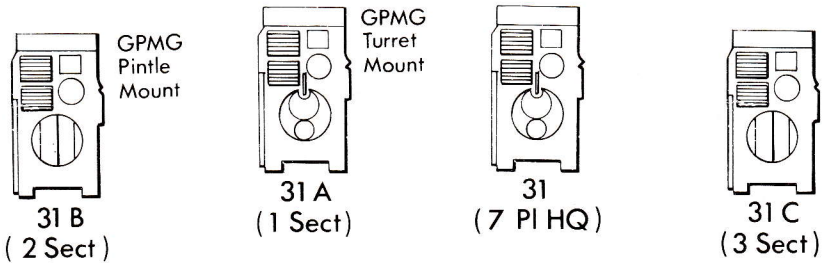


Fig 17.—APC Formations—Line

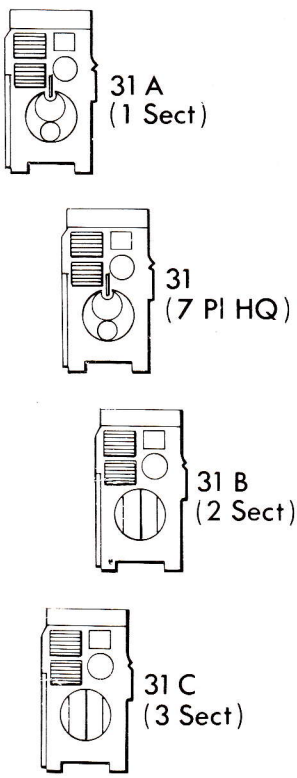
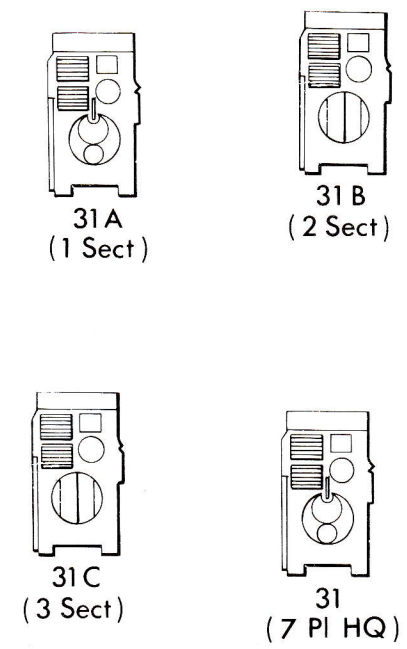
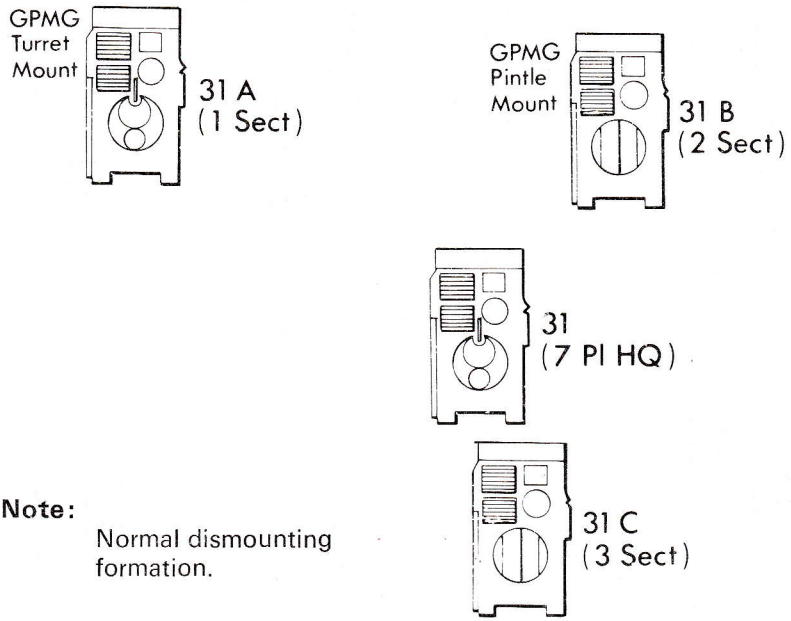


Fig 18.—APC Formations —Line Ahead



Note: Diamond is Box turned through 1600 mils.

Fig 19.—APC Formations—Box



Note:
Normal dismounting formation.

Fig 20.—APC Formations—Two Up

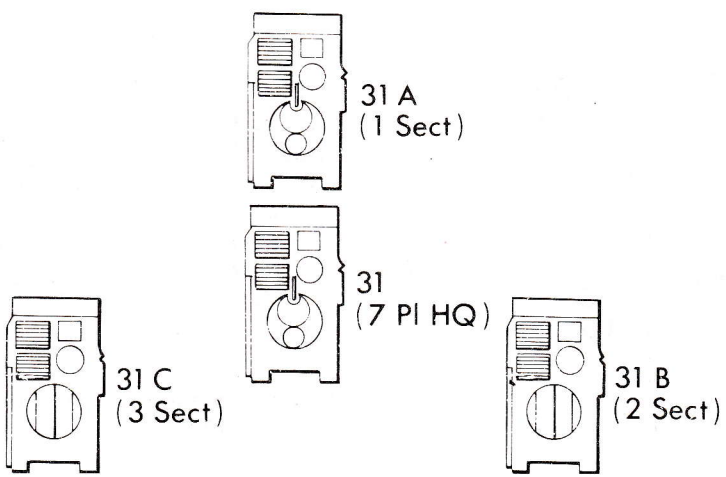


Fig 21.—APC Formations—One Up

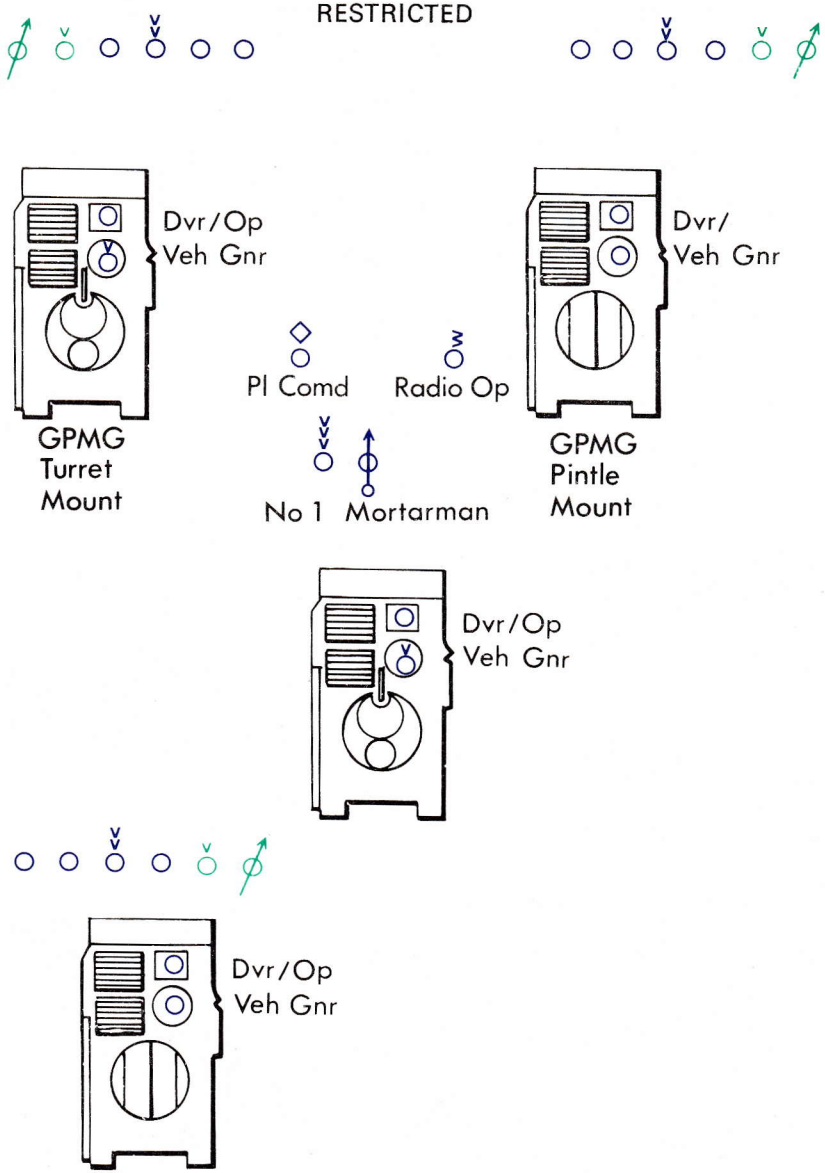


Fig 22.—Mechanized Platoon Formation on Dismounting

action is to move fast to a covered position, if one is nearby. This is recommended if there is enemy artillery and small arms fire around the APCs. If the APCs are on the crest of a hill when they come under fire, it may be possible for them to move into cover. If the APCs come under fire in the open, and there is no cover in the immediate vicinity, the platoon commander may be forced to halt his APCs, dismount his platoon, and engage the enemy. Whatever action is taken, all available fire power must be brought to bear on the source of enemy fire. Smoke from the APC's dischargers will greatly assist the platoon in moving to cover and dismounting.

01215. The platoon commander must be alert for the unexpected and be able to change plans rapidly to cope with or exploit the new situation. Orders to subordinates must be brief, clear and accurate.

01216. The objective in a mounted attack is normally deeper in enemy territory than in a dismounted attack. Therefore the flanks and rear of the platoon are more vulnerable and all round security must be established.

Dismounting

01217. A dismounting area will probably be chosen by the combat team commander after his reconnaissance and based on information from all possible sources. But APC communications do enable the commander to change the dismounting area at short notice or on the move should circumstances alter.

01218. The combat team commander will consider the following factors when deciding where to dismount:

a. The morale of the enemy including their reaction to previous mechanized assaults.

b. The disposition of the enemy and their strength in anti-armour weapons, including mines, set against the attacker's ability to neutralize or avoid them.

c. The time factor. The longer the assaulting infantry remain mounted, the quicker the attack and the fresher the infantry remain.

d. The ground to be covered in the assault and fighting through the objective. It is dangerous to dismount in direct view and within range of enemy small arms and short-range anti-tank weapons unless they are first neutralized.

e. Protection of the assaulting troops. Whilst they remain mounted they can keep closer to covering fire.

f. The shock action effect of an armoured assault. This is linked with sub-paragraph **a.** above.

g. The location of enemy DFs. Likely or known enemy DF areas must be avoided as dismounting areas.

h. The orientation and control of dismounting troops. This is easier if dismounting takes place off the objective.

i. If the main assault force is to dismount off the objective the reserve should remain mounted, ready for the unexpected.

01219. When making his decision, the combat team commander should ask himself *"What good reasons are there for not dismounting on the objective?"* In other words reasoned aggression should be the corner stone of his actions.

01220. An infantry combat team completing a mounted assault will normally come to a halt facing the direction of assault in the two-up formation. This would be the same as for a dismounted assault. One-up may also be used depending on the layout of the objective.

01221. At this stage, mortars supporting the attack will de deployed in a mortar line position and one dismounted MFC will be allotted to the company during the assault. He will travel either with the company commander or with one of the leading platoon commanders. A second MFC in a static position will also be available in order to control the initial supporting fire.

01222. In a two-phase assault with three platoons the second phase may be carried out by the reserve platoon, which will be at the rear in the two-up formation. When one-up, it may be carried out by one or both reserve platoons. The combat team commander may decide to leave the reserve platoon mounted in their APCs until they are required.

01223. When a combat team is to dismount on the objective, the combat team commander allocates part of the objective to each platoon. Each platoon will go to its part of the objective and dismount there under the orders of the platoon commander who, in the heat of the battle is the only person who can make the quick decision exactly when and where to dismount.

01224. It remains the section commander's responsibility to ensure that his APC halts in the best position for his section to dismount and start fighting through the objective using fire and manoeuvre. To give maximum protection and to orientate the men inside, it should be facing the direction

of the objective. This of course is more important when dismounting on the objective.

01225. On approaching the dismounting area, or the objective itself if that is where dismounting is to take place, manpack radios should be switched on. APCs should adopt the formation for dismounted action and, if possible, the platoon commander should indicate the section objectives.

01226. As the assaulting troops dismount the turret-mounted GPMGs should fire on the objective and, if the enemy are not reacting too fiercely the pintle-mounted GPMGs may also be manned and fired. Quite obviously care must be taken not to fire on own troops.

01227. When troops dismount, the platoon APCs will normally be in the two-up formation with the APCs the correct distance apart for the section's subsequent dismounted action. A distance of 60–80 metres will be normal for a daylight attack in open country.

01228. The dismounting drill must be well known to all the assaulting troops, Personal kit, weapons, ammunition and radios must be ready for instant action on dismounting. All, including the commander, dismount through the rear door. The first man out is responsible for holding and shutting the door. If the APC is on a slope the door may be very difficult to control. The commander will be last out. After dismounting everyone must get clear of the APCs as these may either move back to a muster or manoeuvre into a fire position.

01229. When dismounting off the objective the normal drill is for each section to run forward and lie down in its assault formation about 15 metres forward of the APC, thus allowing the section commander to gain full control and issue any necessary instructions once the section can see the ground. This drill can only be carried out under cover from direct enemy fire and when some distance from the objective. When dismounting on the objective, the attacking troops adopt assault formation as soon as they dismount and immediately start to fight through the objective. Platoon commanders must dismount and command on foot unless specifically told to remain mounted.

01230. Fig 22 shows the platoon in assault positions immediately after dismounting. The arrangement shown will not suit all situations. In this example the MAWs have been left in the section APCs to be brought forward on reorganization; sometimes they will be required earlier. The factors which will decide whether or not, or how many, MAWs will be carried with the assault are:

a. The likely enemy tank threat.
b. Any requirement for MAWs to attack bunkers.
c. The need for more riflemen in the assaulting sections.

01231. The empty APC adopts the prefix Z (ZULU) with its normal callsign and is known as a ZULU vehicle. If the APCs are withdrawn to a position of safety, the area is known as the ZULU muster. Ideally it should be in dead ground.

01232. The fire support of the ZULU APCs and their subsequent movement should be co-ordinated. The LCPL gunner in the platoon commander's vehicle should be able to carry out these two tasks.

01233. The platoon sergeant should dismount with the platoon. He is then in a position to take over if the platoon commander becomes a casualty, and he can generally assist during the assault.

Reorganization

01234. Within the platoon, reorganization drills will be as for a dismounted attack, with the addition that the ZULU APCs must be called forward and directed to their sections. If MAWs have not been taken into the assault they must be got into position immediately the ZULU APCs have arrived on the objective.

CHAPTER 2

NIGHT OPERATIONS

SECTION 15—INTRODUCTION

0201. Training for night operations and the operations themselves are covered in further detail in the following pamphlet: Infantry Training Volume IX, Pamphlet No. 44, Part 1, The Infantry Battalion (General) 1975 (Army Code No. 70740 Part 1) Section 33.

0202. The aim of this chapter is to guide the platoon commander in the training of his men for night operations and to give him a basic knowledge of infantry night fighting aids.

0203. The advent of new night fighting equipment means that:

a. In future our enemy will have surveillance equipments, making surprise difficult to achieve.

b. Night must largely be treated as day. Thus ground must be used as by day in order to nullify enemy use of surveillance devices.

c. Only a high degree of training will ensure successful night operations.

0204–0205. *Reserved.*

SECTION 16—TRAINING

0206. The platoon commander must carry out progressive and thorough night training. Living and working at night should become natural and is more important than ever. Training must include the following:

a. Night vision.

b. Use of night fighting aids.

c. Elementary night movement—action when caught in enemy illumination or fire.

d. Weapon handling.

e. Crossing obstacles with and without weapons.

f. Identifying sounds at night.

g. Detection of enemy by observation and listening.

h. Firing of platoon weapons.

i. Cross-country navigation.

j. Patrolling.
k. Defence routine.
l. Platoon attack.
m. Platoon withdrawal.
n. Carriage of casualties.
o. Breaching obstacles.
p. Action in a minefield.
q. Practice in avoiding enemy night fighting aids.
r. Use of night illuminating devices, e.g , 81 mm mortar, light mortar, tripflare
s. Identifying friend from foe, i.e., sentries challenging, passwords, methods of alerting own troops.
t. Siting of observation posts and listening posts.

0207. Details of lessons can be found in Infantry Training Volume I, Pamphlet No. 2, Fieldcraft and Fire Control (All Arms) 1976 (Army Code No. 71061).

0208–0210. *Reserved.*

SECTION 17—NIGHT VISION AND OPERATIONS AT NIGHT

Night Vision

0211. Very few people have no night vision. Most soldiers have a roughly similar capacity to see at night, and training will greatly improve their standards of night observation.

0212. Eyes require time to adapt themselves from seeing with day cells in sunlight to seeing in darkness with night cells. The process of change is known as night adaptation, and takes time. As much as 30–45 minutes may be necessary.

0213. When night cells are exposed to light they lose their adaptability. The brighter the light the greater the loss, and the longer the re-adaptation period. When possible one eye should be kept shut when white light is used.

Operations at Night

0214. Despite improvements to night fighting equipment darkness still gives considerable protection against aimed fire, and its use helps to gain

surprise. Moving and fighting at night are more important than ever before. They require much practice. Obstacle crossing requires particular training.

0215. The main differences between night and day operations are that by night:

a. Enemy rifle fire may be unaimed, except at short ranges, but machine gun fire on fixed lines can be expected at any range.

b. Hearing replaces sight as the predominant natural sense. Therefore silence is of the greatest importance.

c. Without night fighting aids, objects are generally visible only on skylines. This increases the importance of using low ground for movement and observation in that it hides you and tends to 'skyline' the enemy.

d. The difficulty of maintaining direction makes previous daylight reconnaissance highly desirable, expecially for company, platoon and patrol commanders.

e. Control is difficult. Close formations are normal, except on clear moonlit or starlit nights which will permit more open formations.

f. Although night fighting equipment may make the enemy less vulnerable to surprise attack, conversely the use of these aids also gives the attacker advantages in navigation and the use of aimed fire.

Movement at Night

0216. For movement by night:

a. Pass orders and messages in a whisper. Arrange a simple system of signals, e.g., alarm signals such as a finger click or a tap on a magazine for alerting men quickly.

b. Take particular care when crossing gaps where movement may show against the skyline.

c. Check direction regularly and carefully as you go along. The stars, the moon, landmarks silhouetted against the sky, and even the wind may help, but remember the wind can change direction, the stars and moon move slowly and false crests may confuse you.

d. Commanders may consider being well forward to control pace and direction.

e. There must be immediate action drills in case of flares or contact with the enemy.

f. Whenever possible rehearsals should be carried out under the same sort of conditions prior to any night operations.

g. After every halt, allow time for everyone to prepare to move off and check that the man behind him is ready also.

0217–0218. *Reserved.*

SECTION 18—INFANTRY NIGHT FIGHTING AIDS

0219. Platoon and section commanders must have a basic knowledge of the capabilities and limitations of infantry night fighting aids in order to make the best use of them. Platoon and section tactics must be adapted to reduce the effectiveness of enemy devices.

White Light

0220. White light is one of the best aids for target acquisition and engagement. It can be used in two ways:

a. Direct—searchlights, flares and illumination of varying range and brightness.

b. Indirect—by reflecting searchlights off the cloud base to increase the ambient light.

0221. White light has the following characteristics:

a. Men lose their night vision unless one eye is kept closed.

b. Although individual positions may not be disclosed, the general area in which friendly forces are located may be revealed and some measure of surprise lost.

c. There is a risk of self-illumination when used less than 500 metres from friendly positions.

d. Scales of illuminating ammunition will not allow for long periods of illumination. Reserves must be kept in case of a major attack or other priority task.

e. When used correctly it enhances the capability of image intensification equipment.

f. It greatly aids observation and target engagement.

Infra-Red

0222. There are two types of infra-red system, active and passive. An active system is one which relies on the illumination of a target by an infra-red beam, which reflects into an image converted in a viewing device. An infra-red sight used in this way enables a point target to be seen, identified and engaged if it is within range. Active systems are not normally used in the area of the FEBA as they can be detected without the user being aware of this.

0223. Passive systems include viewers which rely on the normal infra-red emissions of a warm object (thermal imaging) and infra-red warning devices which give warning that the enemy is using active infra-red sources, such as searchlights.

Image Intensification

0224. Image intensification devices amplify the ambient light about 100 000 times. They require very little power and are undetectable except at very short range. Their characteristics are:

a. Use of ambient light from stars, moon, sky-glow or indirect white light.

b. Performance is degraded by rain, fog, mist or smoke.

c. Bright light sources such as flares will cause devices to blank out for several seconds.

d. Devices can be broken by rough handling.

e. They are comparatively bulky.

f. Image intensification sights can be fitted to individual or crew served weapons.

g. Active infra-red (IR) enhances image intensification (II) (IR torch, NOD spot) although the active IR can also be seen by an enemy II device.

Radar

0225. Radar is not usually available within the battle group for surveillance. Its use is limited to target acquisition by the attached FOO's parties. GS radar has the following characteristics:

a. *Advantages.*

(1) Detection and location of moving targets in virtually all weather and visibility conditions.

(2) Measurement of range and bearing to selected targets, and translation to grid references by means of a simple plotter.

(3) Indication of speed and direction of movement of targets.

(4) Indication of the nature of the target; for example, whether it is a moving vehicle or personnel, tracked or wheeled vehicles, and the quantity. The accuracy of these determinations depends upon operator expertise.

(5) Ability to adjust mortar fire under poor visibility conditions when the target and bomb bursts are not visible in the normal way.

(6) Possibility of monitoring the position of friendly patrols, if they are not hidden by obstacles.

b. *Disadvantages.*

(1) Active emissions make radars prone to detection, hence jamming and even location and deception are possible if the enemy considers this worth while.

(2) The narrow beam width of all radars and the range gating of some (e.g., ZB 298) mean that only a very limited arc and area of ground can be searched without danger of failing to detect targets (as with a pencil torch).

(3) Some radars (e.g. ZB 298) require considerable operator training. All require maintenance of operator expertise (as with radio operators).

(4) GS radars do not present an immediately recognizable 'picture' of the target and therefore have to be interpreted (as with morse as opposed to voice communication).

Intruder Alarms

0226. There are two intruder alarms currently in service. IRIS works on the breaking of an infra-red beam projected between a source and a sensor. The other, TOBIAS, picks up and amplifies sound waves transmitted through the earth by means of geophones. Both devices can indicate the direction of movement if sensors are set out so that two or more signals are received consecutively from different sensors. The location of the sensors must of course be known. Both systems require cable to connect the sensor to the monitor. The maximum remote distance is 800 metres.

0227. Details of current night fighting aids and surveillance devices are given at Annex B.

CHAPTER 3

DEFENCE

SECTION 19—DEFINITIONS

0301. There are several terms used in defensive operations which are open to misinterpretation. It is necessary therefore to define them at the beginning of this chapter:

a. *Defended Post.* A position held by the whole or part of a small sub-unit, e.g., an infantry section. Posts are grouped together in mutual support to form a defended locality.

b. *Defended Locality.* An area of ground organized for all round defence by a platoon or company.

c. *Area of Responsibility.* The ground allotted to a unit or sub-unit on which it will plan and fight its battle. It is delineated by boundaries.

d. *Forward Edge of the Battle Area* (*FEBA*). The general line of our own troops, excluding patrols nearer to the enemy.

e. *Ground of Tactical Importance.* Ground, the capture of which by the attacker will render the defender incapable of fighting a successful battle in his area of responsibility.

f. *Vital Ground.* This term, which has the same essential meaning as ground of tactical importance, is used at formation level.

g. *Mutual Support.* Within a company defended locality, platoons will give mutual support to each other with small arms fire. Thus gaps between platoons are covered by fire. Within a platoon, section positions will be so sited that an enemy assaulting any one of these can be engaged directly with small arms fire from at least one other. Thus they are mutually supporting and are closer knit than platoons within a company.

h. *Deliberate Defence.* A deliberate defensive position is one selected and prepared out of contact with the enemy. There should be time for detailed reconnaissance and planning on ground of our own choosing, for digging and concealing positions without enemy ground interference, and possibly even for 'professional' fortifications, e.g., bunkers, concrete emplacements, deep minefields, etc.

i. *Hasty Defence.* In the worst case, defence will be built up under the threat from, or in the face of, the enemy. The defender must choose the best ground available to him. Such a defence may be extended to become deliberate. In this case readjustment may be necessary to make best use of the natural features.

j. *Main Position.* A piece of ground on which a combat team or battle group is placed and from which the defensive battle is to be fought.

k. *Alternative Position.* A position from which the same ground can be covered as from the main position.

l. *Secondary Position.* A position from which a necessary task can be carried out, but which cannot be covered from the main position.

m. *Counter Attack.* An attack organized to destroy enemy penetration or recapture vital ground. (The quicker this is launched after losing a position the better.)

n. *Counter Penetration.* The halting of enemy forward movement by positioning troops to block their line of advance. Counter penetration tasks at platoon level are highly unlikely.

o. *Defensive Fire (DF).* Pre-arranged artillery, mortar or GPMG (SF) fire which can be brought down quickly in depth in front of a locality in areas of actual or suspected enemy movement. It will include:

(1) Tasks close in to defended localities to break up enemy attacks.

(2) Tasks in depth to disorganize enemy preparation just before and during his attack.

p. *Final Protective Fire (FPF).* FPF tasks cover the most vulnerable approaches, usually close in to the position. FPF tasks can only be allotted to guns and mortars in direct support and there would only be one FPF task per fire unit, i.e., close support battery, mortar platoon or section, etc. Guns remain loaded and laid on their FPF task when not otherwise engaged. GPMG (SF) will also have FPF tasks on which they are laid when not firing other tasks. These tasks can often be activated by a sentry pending the arrival of the proper crews or teams.

SECTION 20—GENERAL PRINCIPLES

0302. The main task in defence is to make the firepower of the platoon and section as effective as possible by careful deployment. The platoon organization described in Part 1, Chapter 2, Section 7 is ideally suited to this requirement. It can be used for positional defence, and in the patrolling, observation and reconnaissance tasks which are called for in defensive operations.

0303. 'Attack is the best form of defence' so defence must be aggressive, harassing and dangerous to the enemy.

Principles

0304. The basic principles on which defence depends are:

a. Selection of ground of tactical importance.

b. Depth.

c. Mutual support.

d. Concealment.

e. All-round defence.

f. Administration.

Ground

0305. The careful selection of the ground of tactical importance should be the first priority in siting a defensive position. This must be denied to the enemy and will usually be physically occupied, although occasionally other considerations such as lack of cover will dictate that it will be denied by holding or dominating the approaches to it instead.

Depth

0306. Depth is needed to:

a. Stop the enemy gaining information about our main position when preparing his attack.

b. Surprise the attacker.

c. Slow down the momentum of the enemy's attack.

d. Localize any penetration of our localities by the enemy so that he can be counter-attacked and destroyed.

e. Block gaps between forward sub-units and secure one's flanks.

Mutual Support

0307. Each sub-unit must be capable of producing fire on the front, flanks or rear of their neighbouring sub-units. Between platoons, machine gun arcs should overlap and rifle arcs interlock. Mutual support between sections will normally mean the overlapping of machine gun and rifle arcs (*see* Fig 23).

Concealment

0308. Concealment must be obtained by the careful siting and design of individual posts. It must prevent:

a. Observation from the air (including photographs).

b. Observation from the ground.

0309. If positions are accurately discovered from the air, defending troops can expect to be engaged by aircraft as well as artillery and mortars.

0310. It is just as important to gain concealment from the observer on the ground. Once a position has been located it can be attacked by tanks standing off and firing at long range as well as artillery and mortars, and even ground controlled aircraft.

0311. Successful concealment depends upon good siting. Well concealed positions can often surprise and completely disrupt an attacking enemy.

0312. Concealment should not be sacrificed for long fields of fire. One hundred metres is the normal minimum field of fire acceptable for riflemen, whilst 200 metres is adequate for most purposes. The GPMG requires longer fields of fire to be used to best effect.

0313. When operating against an enemy equipped with modern surveillance devices concealment at night is as important as concealment by day. In particular:

a. Camouflage nets must be used at all times. If foliage is used it should be changed daily.

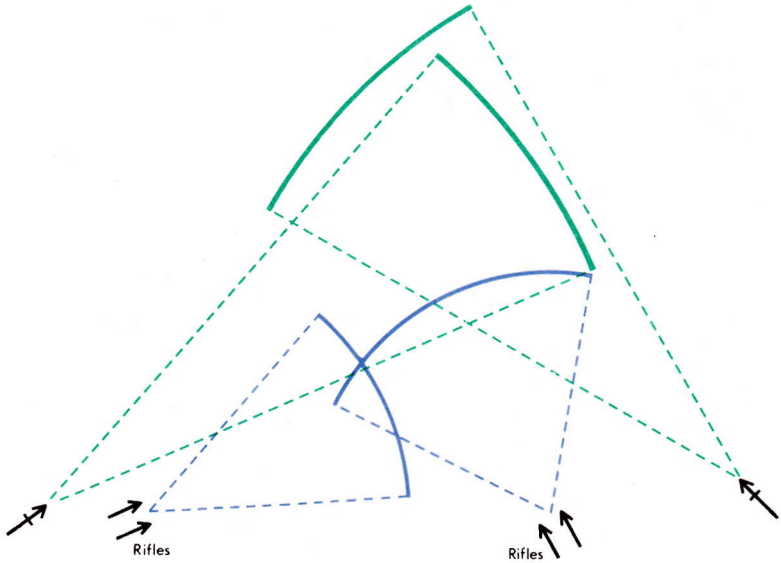
b. Care should be taken to select a good thermal background or cover for anything such as vehicle engines and exhausts which give off heat and can be detected by thermal image and infra-red detectors from the ground or air.

All Round Defence

0314. Battalions are frequently responsible for holding wide frontages. In such cases it is not possible to hold ground along the whole front as it would result in loss of depth. In such circumstances gaps have to be accepted and will be covered by surveillance and dominated by fire. Platoons will be given the primary direction on which they will concentrate their fire and they will site their weapons with this in mind. However, they must be ready to meet an attack from any direction and must, in the final event, be prepared for limited enemy penetration in between the defended localities which should become a 'killing ground'.

Administration

0315. A defensive battle can last a considerable period of time and demands a high degree of determination and the will to fight from the defenders. This requires in addition to leadership, adequate supplies of ammunition, food and water, sleep and medical care.



NOTE Rifle arcs at their battle range will just meet, GPMG arcs with their greater battle range will overlap

Fig 23.—Mutual Support, Interlocking and Overlapping Fire

0316. The platoon commander must plan his administrative arrangements with care giving his men the supplies and rest they need.

0317–0320. *Reserved.*

SECTION 21—WHAT THE PLATOON COMMANDER MUST KNOW

0321. The platoon commander must have knowledge of the following:

a. The enemy. Where he is, when the attack is expected and from what direction.

b. Position of covering troops and screens, their time of withdrawal and probable routes through the position.

c. The location of neighbouring battalion and company defended localities.

d. The position of other platoons in the company area and company HQ.

e. The task of his platoon.

f. The position of tanks and anti-tank weapons in the company area.

g. The fire tasks of any artillery and mortars so far as they affect his platoon.

h. The extent of the minefields in his area and their content and the location of any safe lanes and gaps through them.

i. Priority of work and the time work has to be completed.

j. When fire may be opened.

k. Main track plan.

0322. Having received his orders, which will include this information, the platoon commander must decide how to carry out his mission.

SECTION 22—RECONNAISSANCE

Protection

0323. While making his reconnaissance the platoon commander must have an escort, and a radio. When there is doubt about the location of the enemy a protective party should cover the reconnaissance.

Ground

0324. The platoon commander makes a reconnaissance of the platoon locality, and if time and circumstances permit he should look at the

ground from the enemy point of view, noting likely approaches and considering how best to conceal his position from ground and air observation.

0325. The platoon commander must not make unnecessary tracks which may indicate to the enemy areas to watch. He must make and keep to a track plan and make all subsequent movement of his platoon conform with it.

Liaison

0326. The platoon commander should visit the commanders of adjacent platoons, and neighbouring anti-tank weapons and tanks so that they know each other's positions and ensure that the front is covered by fire. Liaison is from left to right.

0327–0330. *Reserved.*

SECTION 23—SITING THE PLATOON POSITION

Fire Trenches

0331. The location of section positions and their arcs of fire should be given to the platoon commander by the company commander.

0332. The platoon commander will personally site each trench. To do this he must start at the impact area of the weapons under his control. He must then work out arcs of fire which converge on the selected killing areas. This method will dictate where his positions must be located. He must site each trench with his head close to the ground to ensure that the firer will be able to carry out his task. He will lay down the arcs for GPMG and MAW, as well as each trench arc.

0333. The platoon commander should consider his platoon as six fire teams of which:

a. Three have MAW.
b. One has GPMG (SF).
c. Two have GPMG (Lt).
d. All have LAW.

0334. The siting of the MAWs and GPMGs is most important: they provide the hub around which the defence of the platoon locality is built. They should be sited first. If tanks or battalion anti-tank weapons are sited in the platoon area, platoon positions will have to be arranged so as to give local protection to the crews.

0335. Trenches must have good fields of fire, not less than 100 metres unless it is very close country when 50 metres may be acceptable. Trenches will be close enough for a section commander to be able to control his section by voice during the battle.

0336. The platoon commander must supervise the spitlocking of all trenches in the platoon area or, if the ground is suitable, mark clearly the location of each trench and its arc of fire.

Platoon Headquarters

0337. This must be sited so that the platoon commander can see and control his sections. It must be accessible to visitors, and it must be positioned to ensure good radio communications to company HQ and lateral supporting arms and units.

0338. The platoon sergeant is responsible for the detailed siting of the HQ once the platoon commander has pointed it out to him. Various trench arrangements are possible but the following rules must always be obeyed:

a. The platoon commander always has the platoon radio in his trench.

b. The platoon commander and sergeant are always in separate trenches.

Latrines

0339. Latrines should be sited and dug as soon as possible after work begins. Whenever possible site them 20–30 metres down wind. Shell scrapes should be dug nearby to protect anyone caught in the open by enemy fire.

Orders and Briefing

0340. Confirmatory orders for the occupation of the position will be issued after the company commander has visited the position and confirmed his orders.

0341. As well as giving orders to section commanders, the platoon commander should, if possible, brief the whole platoon. This briefing should include:

a, A general outline of the company defensive plan.

b. The platoon plan in detail, including orders for opening fire.

c. Company plans for counter penetration.

d. The night visibility plan.

0342. The need for aggressive defence should be stressed and men should be told the range or condition for opening fire by day and at night.

0343. On occasions the company commander may decide to carry out a company briefing.

Initial Preparation

0344. On arrival the men will be met by their section commanders who will lead them to their positions using the platoon track plan.

0345. Before digging starts, if the tactical situation allows, it is worthwhile standing all men where their trenches are to be. It will give the platoon commander the opportunity of checking distances between sections and trenches. Two minutes spent at this stage should avoid any need to resite trenches once digging has begun.

0346. On arrival at the position each soldier must put his equipment in his alarm position. Rifles and GPMGs must be put on top of, or at the side of, the equipment pointing to the centre of each man's arc of fire. Steel helmets should be put beside the equipment and weapon. All packs of a section should be dug in and hidden in a section 'wardrobe'. If there is a CW threat the respirator must be carried even whilst men are digging and all must wear the complete NBC equipment, less the respirator.

0347. The purpose of this methodical layout during digging is to ensure that there is no confusion should the position be attacked especially after dark. Alarm positions will be used until trenches are deep enough to give more protection.

Stand To

0348. As soon as possible the platoon will have a stand to. The following points should be checked :

a. Alarm posts and sentries.

b. Alarm signals for ground, including chemical sentries if a CW threat exists, air and chemical attack.

c. Arcs of responsibility and fixed lines.

d. Position of flanking units.

e. Orders for opening fire are clearly understood.

f. Track plan.

g. Reference points.

h. Password.

i. Ammunition.
j. Water.
k. Rations (if individuals or the sections are holding a reserve).

0349–0350. *Reserved.*

SECTION 24—PLATOON TASKS

0351. The various platoon tasks to be carried out must be fairly allocated between platoon HQ and the sections. These tasks include:

a. Providing sentries.
b. Clearing fields of fire.
c. Setting out trip flares.
d. Setting up surveillance devices.
e. Making out range cards.
f. Wiring and mining.
g. Construction and manning of OPs.
h. Digging latrines for day and night use and section refuse pits.
i. Helping supporting arms detachments in the platoon locality.
j. Providing patrols.
k. Providing working parties and carrying parties for company or battalion tasks.

0352–0354. *Reserved.*

SECTION 25—PRIORITY OF WORK

0355. The sequence of work will vary according to the situation. The following table should only be taken as a guide.

Serial	Task	Stores
(*a*)	(*b*)	(*c*)
1. Digging	**a.** Decide on the type of fire position.	
	b. Site and mark out each fire trench in relation to the weapon task.	Picks, shovels and camouflage nets.

(a)	(b)	(c)
	c. Site mounds or high parapets as required for protection from direct fire.	
	d. Plan in advance the position of shelter trenches and communication trenches.	
	e. Decide on concealment and track plan conserving turf and topsoil, and hiding spoil until required for headcover.	
	f. Clear immediate fields of fire.	
	g. Dig fire trenches to a depth of one metre.	Camouflage net or individual protection kit for use as a thermal shield under a nuclear threat.
	h. Clear full fields of fire.	
	i. Complete fire trenches and parapet (see Fig. 24).	If a mechanical digger (e.g., LMD) is used both fire and shelter trenches should be dug in one run.
	j. Camouflage trenches and spoil.	
2. First Improvements	**a.** Revet if necessary.	Flexible Revetting Material (FRM), corrugated iron or local material.
	b. Construct overhead protection elevated over fire trench.	As in 2.**a** above plus angle iron pickets or timber as supporting struts, the structure being held up by sandbags or ammunition boxes.
	c. Dig shelter bay and install overhead protection to 0.45 metre of packed earth in depth.	Individual protection kit (IPK).

(*a*)	(*b*)	(*c*)
	d. Camouflage shelters. **e.** If rain is expected, dig catch-water drains above positions **f.** Dig drainage sumps and slope floors. **g.** Make ammunition recesses in fire trenches. **h.** Begin crawl trenches to join up fire bays as necessary.	Odd boxes (ration, ammunition, etc.).
3. Further Improvements	**a.** Continue and deepen crawl trenches. **b.** Improve drainage and flooring if necessary. **c.** Construct sentry embrasures, if necessary, and camouflage.	Duck boards or planks and small boxes. Half-round embrasures or culvert sections, sandbags and pickets.

SECTION 26—DUTIES OF THE SECTION COMMANDER

0356. The platoon commander will have sited each individual position but the section commander must check these and get every man in his section to lie down and check his own position before he starts digging.

0357. The section commander is responsible for ensuring that:

a. Section weapons can bring fire to bear upon the ground within the arcs allotted to them.

b. Precautions are taken to prevent his section being surprised by the enemy.

c. Everyone knows the alarm scheme and passwords.

d. His section is properly dug in.

e. His section is concealed from the air and ground.

f. Track discipline is strictly observed by his section.

g. A proper routine is observed.

h. Range cards are made out and all likely targets recorded.

0358. In addition the section commander must know the following:

a. The task of the section.

b. When the enemy attack is expected and from what direction.

c. Whether any covering troops will be out in front.

d. The area of the platoon defended locality and neighbouring positions.

e. Location of company and platoon HQs, and the precise location of all men in his section.

f. When fire is to be opened.

g. What digging is to be done and time by which the section is to be dug in.

h. What patrols are being sent out, and their timings and routes out and in.

i. Allocation of tools to his section.

j. Any additional tasks such as wiring.

k. Track plan.

SECTION 27—PLATOON HEADQUARTERS

0359. The platoon sergeant is responsible for the detailed layout of platoon HQ once its position has been pointed out to him by the platoon commander.

0360. Platoon HQ usually consists of the following:

a.	Three-man command trench ..	Platoon commander, signaller and runner.
b.	Two/three-man trench	Platoon sergeant and light mortar man/team.

SECTION 28—TRENCHES AND SHELTERS

0361. The main threat to dug-in infantrymen from conventional projectiles is the shell with a VT fuze. But in designing trenches and shelters it is necessary to consider a number of factors:

a. Efficient use of weapons.

b. High degree of protection.

c. Speed of construction.

d. Concealment.

0362. These factors of course conflict and any design will be a compromise. Usually the quickest method of obtaining reasonable protection is to construct overhead protection over the basic two-man trench as this involves the minimum amount of digging and gives added protection when firing from under it. However, if materials are not to hand the individual protection kit must be used with a shelter trench to obtain overhead protection. It is recommended that for maximum protection battle trenches should be not more than 0.62 metres (24 inches) wide; the minimum overhead protection should be 0.45 metres (18 inches) thick for both nuclear and non-nuclear war. Part of the fire trench should be open to allow access and the use of LAW/MAW and grenades; it may therefore need to be more than 1.83 metres (6 feet) long.

0363. A section may be sited using any combination of two and four-man trenches. A diagram of a possible two-man battle trench is shown at Fig 24.

0364. Further details of trenches are given in Military Engineering, Volume II, Field Engineering Part II, All Arms, Pamphlet No. 2, Field Defences 1970 (Army Code No. 70619).

Digging Aids

0365. Three types of quick digging aids are available:

a. Explosives.

b. Hand held power tools that can be used for pick and spade work in very hard ground or for making boreholes for explosives. These consist of electrical tools connected to a power point at the rear of APCs or to a 400 Hz generator.

c. The light mobile digger, which can travel at normal road speeds and has a cross country performance. It is designed to dig individual fire trenches, command posts, support weapon pits and shelters.

0366. *Reserved.*

SECTION 29—DIGGING TIME

0367. Any yardstick for digging times is liable to variation owing to the following factors and the motivation of the diggers:

a. Type of ground.
b. Aids and stores available.
c. Weather.
d. Day or night.
e. Ease of concealment.
f. State of training.

However, the following are planning times for infantrymen digging without any explosive or mechanical assistance:

Serial	Work to be completed	Planning Times	
		Easy Soil	Difficult Soil
1	2 man fire trench	½–2 hours	2–4 hours
2	Add overhead protection over fire trench	Plus 1 hour	Plus 1 hour
3	2 man fire trench with overhead protection and shelter	3–5 hours	5–9 hours

0368–0370. *Reserved.*

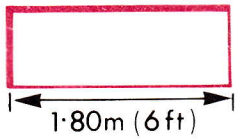
SECTION 30—ALTERNATIVE POSITIONS

0371. On occasions other positions may have to be dug for:

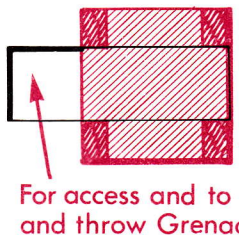
a. *Deception.* To deceive an enemy as to which battle positions will actually be occupied.

b. *Secondary Tasks.* Tasks which cannot be covered from the main position.

a. Stage 1 – Fire Trench

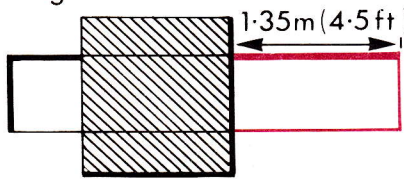


Dig Survival Hole

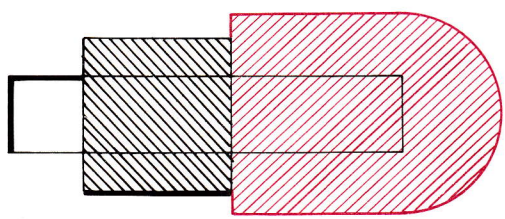


Add elevated OHP over Fire Trench

b Stage 2 – Shelter



Dig Shelter Trench (Dug with Survival Hole if a Mechanical Digger is used)



Add OHP over Shelter

Depths and heights

Depth of Fire Trench – To armpits of tallest man

Height above Ground of Fire Trench OHP – 0·30m to 0·60m (1ft to 2 ft) with gap for firing

Depth of Spoil / Sandbags – 0·45m (18in) to provide OHP

Fig 24.—Two Man Battle Trench—Possible Development Stages

c. *Occupation at Night.* For use by OPs and standing patrols to cover gaps or dead ground.

0372. Alternative positions impose an additional physical strain on the men and must not be started until the primary fire trenches and obstacles have been completed.

SECTION 31—WIRE OBSTACLES

0373. Wiring is a quick way of providing an obstacle to enemy infantry. The object of wiring is to slow down the enemy's advance and increase the chance of killing him with fire. Wire must be sited so as to check the enemy outside grenade throwing range of the platoon position.

0374. Wire not covered by fire is virtually useless.

0375. Wire should be sited, as far as possible, to achieve surprise. For this reason, it should be well hidden in such places as sunken lanes, hedgerows and long grass.

0376. Booby traps must not be sited within wire obstacles except on specific orders from the battalion commander. They must then be carefully recorded.

0377. The basic types of wire obstacles are given at Annex C. Stores and men needed to construct each type are given at Annex D. Details of construction are given in Military Engineering, Volume II, Field Engineering, Part II, Pamphlet No. 3, Obstacles, 1974 (Army Code No. 70398 Part 3).

0378–0380. *Reserved.*

SECTION 32—MINES

0381. Well sited and carefully concealed minefields covered by fire are an effective obstacle to men and vehicles. A minefield may consist of anti-tank mines, anti-personnel mines or a mixture of both depending on its aim. There are three main types of minefields which may be laid by platoons:

a. *Protective.* Designed to assist a unit in its local close-in protection by slowing down the enemy attack in its final stage. They will usually be sited by the battalion commander and laid by

companies. They must be covered by small arms fire and anti-tank weapons. Safe lanes may be left for patrols to pass through.

b. *Nuisance.* Laid by engineers and infantry to delay and disorganize the enemy. All types of mines and devices may be used. It is not often possible for them to be kept under observation or covered by fire. They are recorded but not marked.

c. *Phoney.* Laid to simulate a minefield in order to deceive the enemy. It will not contain any live mines.

0382. There is one other type of minefield which is laid by engineers:

Tactical. A minefield laid to delay, channel, or break up an enemy advance, which conforms to the formation obstacle plan and whenever possible will be sited to enable effective direct or indirect fire to cover the minefield.

0383. Details of mine laying drills are given in Military Engineering, Volume II, Field Engineering Part II, All Arms, Pamphlet No. 5, Mine-laying, 1978 (Army Code No. 70398 Pamphlet 5). Details of the standard drill used by the infantry (Drill C) are included at Annex E to this pamphlet.

0384–0385. *Reserved.*

SECTION 33—FIRE PLAN

Defensive Fire (DF)

0386. To help the platoon hold its position certain DF tasks for artillery and medium mortars will be planned at company or battalion level.

0387. On occasions the platoon commander will himself be authorized to call for DF fire, but at all times he must know where such tasks are on the map and on the ground.

0388. When he wants a task fired he must send back quick and accurate information to company HQ in the form of a contact report. The location of the enemy may be given in relation to a DF task instead of a grid reference. If a platoon or section commander has to direct the fire he will use artillery target indication procedure. *See* Part 1, Annex N for details.

Armour

0389. The principal role of tanks will be the destruction of enemy armour and the support of any counter attacks planned in the battle area. Tanks

can also carry out counter penetration tasks and give protection to infantry positions. They can give indirect defensive fire or direct fire from previously reconnoitred positions. They can also, exceptionally, be used to ferry troops, e.g., reserves, counter attack force, etc.

0390. Tanks will normally be concealed and only move to fire positions when required.

Anti-Armour Defence

0391. All anti-armour weapons will be sited in depth, within the defended locality as part of the overall battalion or company anti-armour plan. The platoon commander will be given in his orders the details of arcs of fire for the platoon anti-tank weapons.

0392. Battalion weapons may also be sited in the platoon area. Their arcs will be co-ordinated with those of the platoon weapons.

0393. The platoon commander is not responsible for siting these support weapons but he will liaise with the detachment commanders concerned and be ready to :

a. Provide protection.

b. Help in preparing positions.

c. Give administrative assistance if required.

0394. If extra anti-armour weapons are allotted to a platoon, they will be sited to deal with any tank approaches not already covered.

0395. *Reserved.*

SECTION 34—CONDUCT OF THE DEFENSIVE BATTLE

Morale

0396. Living underground for long periods in defence is a severe test of mental stamina and morale. Under these conditions the following factors assume great importance :

a. *A Sound Plan.* Every man must have implicit faith in the soundness of the plan.

b. *Discipline.* Discipline must be watched and maintained and any relaxation of standards in alertness, aggressiveness, concealment and hygiene must be firmly reversed.

c. *Administration.* Good administration is essential to any phase of war but in a long drawn out defensive battle it is paramount. Good and regular meals, regular mail in and out, properly organized and adequate rest, aids to keeping men dry, e.g., waterproof covering for individuals and for shelters, good supplies of foot powder, DDT, antiseptics, etc. Good administration and good morale go hand in hand. After all *"Any bloody fool can be uncomfortable in war" !*

d. *Reliable Communications.* Reliable communications are as important to the infantryman as his weapons.

Communications

0397. The main means of communications are:

a. Radio.

b. Line.

c. Light signals.

d. Runner.

e. Field signals.

f. Whistle.

g. Voice.

0398. The radio link to the company commander is so important for the conduct of defence that radios must be protected and remote antennas should be used to improve communications.

0399. When line is laid, it must be buried and if possible duplicated, so that if one line is destroyed by gun-fire an alternative route exists. Line must always be duplicated by radio communications.

03100. Light signals can be easily missed and are not entirely reliable. They must be understood by the section commanders and sentries. DF can be called for by light signals. Control of illumination will be centralized at company HQ.

03101. Runners must know the routes between section positions and platoon HQ and to company and battalion HQ. They of all people must observe strict track discipline. However when battle is joined runners are liable to become early casualties.

03102. Platoon and section commanders must ensure that their men can be stood to silently in case of alarm and that sentries are able to alert their section commanders quickly and quietly.

03103. Some form of wire or string must be positioned from trench to trench within a section area and from the section commander's trench to the platoon commander's trench. A system of tugs can be used to pass the alarm and other signals.

03104. A whistle can usually be heard over the noise of battle and can be a valuable means of communication.

Conduct When Attacked

03105. Troops in prepared localities must understand clearly that they have to stand fast and fight it out in their position. There must be no thought of withdrawal or looking over the shoulder.

03106. As soon as the enemy is seen forming up or advancing to attack, information must be sent by radio to the company commander who will then call for DF from supporting artillery and other weapons.

03107. Within the platoon itself, fire must be controlled to be effective. Platoon and section commanders must therefore ensure that they issue clear orders for opening fire and that good fire discipline is observed.

03108. At night the control of light will be in the hands of the company commander, since one flare could compromise the whole position. At times, especially during a battle, the company commander may delegate control of illuminants to platoon commanders or MILAN detachment commanders.

03109. An enemy whose attack has been halted is in a perilous situation. This is the climax of the defensive battle when the enemy must be attacked and driven back or better still destroyed.

03110. *Reserved.*

SECTION 35—ROUTINE IN DEFENCE

Information

03111. Between battles, there is a constant requirement to obtain information about the enemy and, at the same time, deny information to them.

03112. Information is gained by the following means:

a. SHELREPS, MORTREPS and relevant NBC forms (The

Infantry Aide Memoire Part 1, General, 1979 (Army Code No. 71153) gives the standard format for reports).

b. OPs and monitoring posts established in the platoon area of responsibility.

c. Aggressive patrolling.

d. General observation from weapon slits, primarily by sentries, including chemical sentries where a CW threat exists.

e. Surveillance devices.

03113. Information is denied by:

a. Strict fire discipline.

b. Concealment. This means constant attention to camouflage and a strict track plan and no unnecessary movement or noise.

c. Early warning of an enemy approach by sentries, standing patrols, intruder alarms, viewing devices, radars and trip flares.

d. Patrols. Patrols should be given the task of clearing the area close to our position at first light, particularly in close country or when occupying a reverse slope position.

e. Strict radio discipline.

Communications

03114. Communications, particularly line, must be tested regularly to ensure that they are in reliable working order.

Arms, Equipment and Inspections

03115. The platoon commander must issue clear orders on dress, equipment to be worn and weapons to be carried. He should also include orders:

a. That all personal kit must be packed and stowed away when not actually in use. Recesses to be dug in shelters for packs.

b. That kit must not be left lying around on the elbow rests, parapets or anywhere outside the trench.

c. For drying towels, clothing and sleeping bags. On a reverse slope the problem becomes easier, but the air situation will dictate whether or not these can be put out to dry on the position or not.

d. For weapon inspections to be carried out by sections on a staggered programme and by half sections. No more than one GPMG per platoon should be stripped at one time.

e. For foot inspections, particularly in hot or very wet conditions.

f. For the issue of extra stores and equipment, to include digging tools, sledge hammers, wire cutters, torches, radio batteries, telephones, line and defence stores.

g. For optical instruments to be inspected, particularly in hot and humid conditions.

h. For inspections also to be made of ammunition, reserve ammunition, rations, water, clothing, personal cleanliness, latrines and refuse pits.

Rest

03116. The platoon commander must ensure that his men get as much rest as possible. The only way to achieve this is to organize rest in the same way as any other duty. It is one of the most valuable commodities in war. Rest will mostly be taken in the day-time.

Stand To

03117. Troops stand to in defence so that all commanders can ensure that:

a. Every man is both present, alert and properly equipped.

b. All weapons are manned and properly aligned.

c. Ammunition is to scale and readily available.

03118. Normally stand to is ordered at dusk when light is fading until after dark and just before dawn until after first light, e.g., when an attack can be most expected. It also normally covers changes of routine from day to night and vice versa. Stand to can be ordered at any time at the discretion of the local commander, e.g., when an attack is expected or when important orders are to be passed from man to man. It normally lasts from 45–60 minutes.

03119. The platooon must always be at stand to by the time ordered by the company commander. The platoon commander must therefore visit his sections and complete his own final checks by this time. There must be no undue movement above ground in the platoon area during stand to. The following additional checks should be made at this time:

a. Arcs of fire.

b. GPMG fixed lines and tasks.

c. Sentries.

d. Range cards.

e. Communications.

f. Surveillance devices.

g. Camouflage.

h. Dress and equipment, including state of NBC equipment where NBC threat exists.

03120. ***Routine for a 24 Hour Period.*** A suggested practical routine for a period of 24 hours is shown at Annex F.

SECTION 36—THE MECHANIZED PLATOON IN DEFENCE

03121. In defence the characteristics of the APC may be used to:

a. Move sub-units from hides to battle positions to counter specific enemy thrusts.

b. Move quickly into position for counter-attack and/or counter-penetration tasks.

c. Add firepower to the defence by use of vehicle-mounted GPMGs where these can be sited properly.

Stages of Battle

03122. The mechanized platoon, as part of a combat team, will be involved in fighting the enemy in the various stages of the battle designed to inflict the maximum delay and casualties on the enemy whilst suffering the minimum casualties ourselves, and to channel him into an area whereby he can be defeated in detail by nuclear or non-nuclear means.

Method of Operation

03123. The basic method of operation will be for the combat team to occupy a hide in its area of responsibility, moving from the hide to one of a number of previously reconnoitred and sometimes prepared battle positions from which it will engage the enemy.

Hides

03124. A hide must ideally:

a. Give concealment from ground and particularly air.

b. Allow dispersion to lessen the effect of nuclear and air attack.

c. Afford security against:

(1) Surprise attack by the enemy.

(2) Observation by enemy agents.

(3) Chemical attack in liquid or aerosol form.

(4) Nuclear attack.

03125. Concealment is the primary requirement. Once a hide is located by the enemy it must be evacuated at once to avoid the inevitable and probably immediate attack by air or ground, i.e., conventional, nuclear or chemical.

03126. Organization of the defence of the hide will normally be the combat team commander's responsibility. However, a mechanized platoon may be grouped with a tank troop, combat team HQ or another platoon in one part of a hide and the platoon commander may be made responsible for organizing the local defence. In this case he should give orders for the following:

a. Concealment including a track plan.

b. Digging of shelters. A shelter with 0.5 metres (18 inches) of overhead protection gives 25 times more protection against gamma radiation than does an APC, although protection against other effects is comparable.

c. Allocation of alarm posts and rehearsal of the alarm scheme.

d. Posting of tactical, air and chemical sentries, OPs and listening posts.

e. Selection of RVs in the event of emergency evacuation.

f. Replenishment plan if this has not been considered before the hide was occupied.

g. Routine such as rest and vehicle maintenance.

h. Siting of intruder alarms.

i. Routes to battle positions.

03127. Within the platoon area tanks, APCs and other vehicles may be closer together than they would be in a battle position, to ease the problems of defence and finding the manpower for radio watch, vehicle maintenance, sentries and OPs. Vehicles and vehicle mounted weapons should face outward and the weapons integrated into the defensive fire plan.

03128. Hides may be in woods, small villages or farmsteads. If vehicles can be driven into buildings, these offer greater concealment and protection than do woods but are more vulnerable to nuclear attack.

03129. Ideally every battle position in the combat team area will be fully prepared and even stocked with ammunition. In practice there will not often be time for this, except perhaps in the main defensive position. Priorities for preparation will be laid down by the battle group or combat team commander. Platoon commanders must ensure that every man is

practised in occupying battle positions by day and night. This practice must include vehicles. Range cards must be prepared and, if possible, DFs adjusted and communications tested.

03130. In battle positions in open country the role of the platoon will be to provide a secure base from which tanks and ATGW will engage enemy armour at their best ranges to prevent being bypassed by an advancing enemy. The siting and defence of these weapons will be of primary importance. In close country the platoon will prevent enemy armour and dismounted infantry from opening up routes through the combat team area. MAWs, LAWs and small arms will be sited, and indirect fire plans made, to win the close quarter battle when the secure base is attacked.

03131. It may sometimes be possible to dismount the pintle-mounted GPMGs to improve fire power. This would affect ZULU APCs' own security, and could cause delay in vacating a position.

03132. At night during the delaying battle a platoon may be given the task of blocking an approach or route into the combat team area. In this case the battle will be fought at close quarters, in the form of an ambush. Once this is sprung, and the leading reconnaissance or armoured vehicles dispersed, small ambush parties armed with MAW or LAW should be able to destroy the survivors piecemeal. This is described in more detail in Section 80.

03133. When a battle position is to be occupied it may be necessary for infantry on foot to first check that it is clear of enemy agents, heliborne or parachute troops or small parties of enemy who are lost or are survivors from destroyed tanks or APCs. One way of preventing enemy from infiltrating into the main battle positions undetected is for sections of infantry to be left in them as standing patrols whilst combat teams are in their hides.

Surveillance

03134. Before contact is made, and during the early stages of the battle the battle group will have to maintain surveillance over a wide front. This could include a natural or artificial obstacle. The ground may be such that OPs and any surveillance detachments are unable to cover the whole front in depth. Infantry platoons from the combat teams may therefore have to assist.

03135. Each platoon should be able to produce up to two self-contained OPs of four men each. These may have to operate dismounted and away

from their APCs in well dug and camouflaged positions. If an OP needs to be able to call for and adjust artillery and mortar fire it will have to have a section commander in it. It may sometimes be convenient to have an attached FOO or MFC in an OP.

Replenishment

03136. Routine replenishment may take place when a combat team passes through a suitable area in a wood or village, or it may have to take place in a hide. In the latter case concealment and security must not be prejudiced. A guide must meet the replenishment vehicles and help to guide them around all APCs, if the ground is suitable.

03137–03140. *Reserved.*

SECTION 37—CONTROL AND GUARDING OF DEMOLITIONS

Introduction

03141. Demolitions are normally prepared and blown by engineers. However, the control of what is to be destroyed, and when, is not an engineer responsibility. This is entirely a matter for a commander and his staff. All platoon commanders should know the methods of controlling and guarding demolitions, as they may find themselves responsible or at least form part of a demolition guard. Demolitions in this context applies to the closing and denying routes over, or through, obstacles natural or otherwise, e.g., rivers, defiles, minefields and ditches.

Aim

03142. The aim of this section is to explain the types of demolitions and the methods by which a commander controls their firing.

Types of Demolition

03143. Demolitions are classified as:

a. *Preliminary.* Preliminary demolitions are those which do not interfere with our planned tactical movement. Normally the commander will delegate authority to fire these demolitions to the engineers as soon as there is no danger of prejudicing surprise or otherwise affecting operations. It is desirable to fire preliminary demolitions as early as tactically possible to release to other tasks both those detailed to ensure the security of the demolition and the engineers.

b. *Reserved.* The firing of reserved demolitions must be stringently controlled, because they play a vital and integral part in the tactical plan.

Reserved Demolitions

03144. ***Authorized Commander.*** The officer empowered to authorize the firing of a reserved demolition is called 'the authorized commander'. As the withdrawal proceeds, authority may be delegated to a lower commander.

03145. ***Demolition Guard.*** The task of the demolition guard is to ensure that the enemy do not capture the demolition before it has been successfully completed. The size of the guard will vary according to the tactical importance of the target; it is normally a company or combat team, with or without armour. The company, combat team or other commander responsible is called 'the demolition guard commander'.

03146. ***Demolition Firing Party.*** The demolition firing party is technically responsible for the demolition. It is normally an engineer party and is often commanded by a junior NCO.

03147. ***Technical Definitions.***

a. *Uncharged.* A demolition target which has been prepared to receive charges, the latter being packaged and stored in a safe place.

b. *Charged.* A demolition on which all charges have been placed and which is at one of the states of readiness below:

(1) *State of Readiness '1' (SAFE).* The demolition charge has been placed and secured. Detonators or initiators have not been connected or installed.

(2) *State of Readiness '2' (ARMED).* Demolition is ready for immediate firing.

c. *Prematures.* The danger of premature firing caused by the close explosion of a bomb or shell when the demolition is armed must be balanced against the time required to bring the demolition from state of readiness '1' (SAFE) to '2' (ARMED). This time will be about 5 to 10 minutes.

Command Responsibilities

03148. ***The Authorized Commander.*** Initially the authorized commander will be the formation commander responsible for the operational plan. He:

a. Classifies a demolition as reserved.

b. Orders a formation or unit to provide a demolition guard.

c. Orders the state of readiness.

d. Orders whether or not the demolition should be fired on the initiative of the commander on the spot in case of imminent capture.

e. Subsequently orders:

(1) Changes, as necessary, in the state of readiness.

(2) The demolition to be fired.

f. May delegate these responsibilities at any stage before or during the operation. For example, when one formation or unit withdraws through another which is holding an intermediate position, it is normal for control to pass to the commander of the holding formation who then becomes the authorized commander. Delegation of control is an important command decision (*see* paragraphs 03153. **c.**, **d.** and **e.**).

03149. ***The Engineer Commander.***

a. Advises the formation commander on the technical factors, including engineer effort available, affecting his choice of reserved demolitions.

b. Orders the preparation of the demolition.

c. Provides the demolition firing party.

d. Initiates the instructions for the commander of the demolition firing party on AF W4012B (*see* Annex G).

03150. ***The Demolition Guard Commander.*** He receives his initial orders on AF W4012C (*see* Annex H) and thereafter:

a. Commands all troops at the demolition site including the demolition firing party.

b. Ensures the safety of the demolition from enemy attack or sabotage.

c. Controls traffic and refugees.

d. Passes to the commander of the demolition firing party the order in writing on the AF W4012B to change the state of readiness and to fire the demolition.

e. Keeps the authorized commander informed of the state of preparation of the demolition and the operational situation at the demolition site.

f. After the demolition, reports to the authorized commander on its effectiveness.

03151. ***The Commander of the Demolition Firing Party.*** He is an engineer who:

a. Maintains the state of readiness ordered.

b. Fires the demolition when ordered and ensures it is successful.

c. Reports the result of the demolition.

Communications

03152. The authorized commander must ensure that there is a clear-cut channel whereby he can pass orders to the commander of the demolition firing party to change the state of readiness, and to fire the demolition. This channel will normally be through the demolition guard commander, whose command includes the firing party, and it must be known and understood by all concerned. To ensure success, a combination of methods will often be used:

a. Normal command channels. With several links involved this may lead to delay, but it has the advantage that many of those concerned are automatically kept in the picture.

b. A LO with a radio set. This is often valuable as the demolition guard commander can then devote himself to his other duties in the immediate vicinity of the target.

c. A pool radio set allotted to the demolition guard commander, either on the appropriate command net or on a special net.

d. Engineer net.

e. Artillery communications to an OP with the demolition guard commander.

f. The order may be given personally on the spot by the authorized commander.

Written Orders

03153. ***AF W4012B. Orders to the Commander, Demolition Firing Party.*** This proforma (*see* Annex G) is NATO standardized and is issued through engineer channels. It caters for several possibilities:

a. A preliminary demolition (paragraph 4(a) or 4(b)).

b. A reserved demolition with a demolition guard (paragraph 4(d)).

c. A reserved demolition with no demolition guard (paragraph 4(c) or 4(d)).

03154. ***AF W4012C. Orders to the Demolition Guard Commander.*** This proforma (*see* Annex H) has also been standardized within NATO. It is self-explanatory but the following points should be particularly noted:

a. 'Code sign' (Part 1, paragraph 1.c.) should be interpreted as 'nickname'. This is for easy reference to the location, e.g., 'RABBIT TABLE' instead of 'Bridge 675892'. This must not be confused with a code word, which is the means used to give an executive order.

b. One sub-paragraph of the emergency firing orders (Part IV, paragraph 14) must be deleted. The authorized commander must therefore decide whether the demolition guard commander should be allowed to fire on his own initiative or not.

c. A code word meaning 'The Authorized Commander is changed to . . .' is to be included among the code words (Part V, serial g). The delegation of authority to fire should be passed to the demolition guard commander and the new authorized commander using this code word and the address group or encoded title of the new authorized commander. An effective time can be added in code if required.

d. Every potential authorized commander must have a copy of the AF W4012C. When authority is to be delegated to an unforeseen commander the currently authorized commander must pass his own copy of AF W4012C to the new authorized commander.

Defence of a Reserved Demolition

03155. The normal principles apply to the defence of a reserved demolition. However, the main consideration must be the close defence of the demolition itself. If the defensive perimeter is too wide a 'coup de main' force or saboteurs have a good chance of seizing it by surprise. This makes the siting of sections and weapons more critical than normal, especially in the case of bridges over rivers and canals which are often overlooked by higher ground within tank and machine gun range.

03156. In planning his defensive layout the demolition guard commander should consider the following :

a. There must be physical control of access to the demolition from both sides.

b. At least one section should be given the task of 'close' guarding the demolition and in the case of a bridge, patrolling the water approaches to it.

c. Arrangements for getting all his force to the home side, and when this should be carried out. Some form of boat or raft may be necessary.

d. The siting of tanks. If necessary one tank can be sited right on the demolition to ensure that no enemy AFV can approach at high speed and block it.

e. The location of a recovery vehicle on the home side to deal with breakdowns in any withdrawing force.

f. The maintenance of a small reserve to deal with the unexpected.

03157. The command post should be on the home bank and co-located with the demolition firing party. It should be far enough away from the demolition for safety when it is blown. It should also be:

a. 30 metres from any road to avoid the risk of high powered radios remotely initiating the electric circuits.

b. Not more than 400 metres from the charges to keep the resistance in the firing cable to the minimum and to assist the engineers in their routine checking of the circuits.

03158. It is normal practice to site an alternative firing point and command post on the enemy side of a demolition. This is done in case the original firing point should be captured by 'coup de main'.

03159. In the command post no radio should be within three metres of the firing circuit.

03160. If there is an LO from the authorized commander's HQ, he must be located with the demolition guard commander at all times. LOs from units passing through the demolition from the enemy side will report and give a SITREP to the demolition guard commander but their primary responsibility is to check vehicles of their unit through and therefore they will be located on the main axis through the demolition.

03161. Once the demolition is blown the demolition guard must not be withdrawn until the engineer party has inspected the demolition, improved its effectiveness if necessary and laid mines in the rubble. It is the demolition guard commander's responsibility to report the effectiveness of the demolition to the authorized commander.

03162. Further information concerning demolitions is contained in Military Engineering, Volume II, Field Engineering Part I, Tactics and Organization, Pamphlet No. 4, Demolitions 1972 (Army Code No. 70493 (Pamphlet 4)).

CHAPTER 4

WITHDRAWAL

SECTION 38—GENERAL PRINCIPLES

0401. The withdrawal is probably the most difficult phase of war to execute not only because it requires meticulous planning and a high degree of co-ordination, but also because it is very often mistakenly associated with impending disaster. It usually means the giving up of ground and can, unless carefully controlled, take place under conditions of declining morale. However, well conducted by determined and disciplined troops, it can knock the stuffing out of a pursuing enemy and eventually break him.

0402. As a pursuing force must always aim to keep close contact with a withdrawing enemy, so conversely, a withdrawing force must aim to break clear from a harrying enemy in order to stand and fight on ground of its own choosing which, one hopes, has at least been partially prepared. At platoon level withdrawal will normally be part of a larger scale operation, i.e., combat team or battle group.

0403. The principles of withdrawal are:

a. Flexibility.

b. Simplicity.

c. Offensive action.

0404. Important factors are:

a. Maintenance of morale.

b. Control.

c. Security.

0405. The principles and factors are dealt with in Land Operations, Volume II, Part I, Formation Tactics (Army Code No. 70633).

0406. At platoon level the following aspects deserve emphasis:

a. *Flexibility.* You must have ready alternative plans in case enemy action forces changes in time, route, bounds, etc. Everyone should know of the more likely alternatives.

b. *Simplicity.* Under pressure men's minds get tired and their intellect gets blunted. Plans must not only be simple to understand but also simple to carry out, especially at night. Easily recognized check points and routes must be selected.

c. *Offensive Action.* One must never forget that withdrawal like any other phase of war, aims at the destruction of the enemy. Therefore it is sometimes more convenient or propitious to withdraw than to advance. So every withdrawal plan must include 'enemy destroying' facets, e.g., positions on which to hold and fight, ambushes, booby traps, minefields, counter attack areas, etc. Soldiers must be continuously reminded of the 'aggressive' nature of a well conducted withdrawal.

d. *Morale.* Under these conditions the best morale booster is to keep your men fully informed as to what the plan intends to achieve. Do not hide unpleasant facts—well disciplined soldiers can take this and help in restoring the situation—but be ruthless in suppressing rumour and exaggeration.

e. *Control.* Start off with a simple plan, explain it carefully and deliberately to everyone and then supervise closely the essential parts of it:

(1) Early and thorough reconnaissance of routes, RVs, check points, etc.

(2) Ammunition replenishment at various stages.

(3) Provision of hot meals, if possible.

(4) Active liaison with flanking and supporting units.

(5) Accurate time keeping.

f. *Security.* This must be emphasized continuously and any break must be dealt with quickly and ruthlessly if the safety of the plan and of the men taking part are to be protected.

0407–0409. *Reserved.*

SECTION 39—PREPARATION

Information

0410. Before the withdrawal the platoon commander must know:

a. Who will order him to withdraw.

b. The time up to which he must deny his position to the enemy.

c. Time when he may begin thinning out.

d. The time by which he must be clear of any line.

e. Where he is to withdraw to.

f. The route to the combat team check point and RV.

g. The position of troops, if any, through which he is to withdraw.

h. The withdrawal plans of covering parties, patrols, supporting tanks and troops on the flank.

Orders and Briefing

0411. In orders and briefing the following points must be included:

a. Full details of withdrawal timings, routes and positions of other troops.

b. A warning against false rumours.

c. A warning against leaving behind anything of value to the enemy such as ammunition, papers, marked maps or stores of any kind.

0412. Detailed headings for platoon commanders' orders are given in the Infantry Aide Memoire, Part 3, Platoon Commanders Aide memoire (Army Code No. 71154).

Reconnaissance

0413. Platoon commanders must reconnoitre the route from the platoon RV to the combat team RV, section commanders from the section position to the platoon RV. The combat team commander will normally select platoon RVs and when necessary check points. This is to prevent platoons clashing by choosing the same place.

0414. *Reserved.*

SECTION 40—CONDUCT OF WITHDRAWAL

0415. In withdrawal operations the battle group commander will normally be given:

a. The time up to which the battle group must deny the position.

b. The time before which there is to be no rearward movement except for reconnaissance parties.

0416. As a platoon withdrawal is usually part of a battle group plan the platoon commander must understand the significance of these timings, and his platoon's part in the overall battle group withdrawal operation, e.g., if he receives orders to deny the position to the enemy until 2300 hours, he must retain sufficient fire power on the position until 2300 hours to prevent an enemy attack overrunning his position. To assist him in his task he will usually have the fire of supporting arms. The withdrawal of forward platoons will not normally start before the time of denial.

0417. It will not be easy to make a clean break with the enemy if surprise is lost or the enemy is in close contact with the forward positions, but this should always be the aim. The platoon must continue all its normal activities until the last moment, so as not to give any indication of impending withdrawal.

0418. Patrols must be active to prevent enemy infiltration and to give early warning of enemy approach. They will normally return to the main position before the forward platoons start to withdraw. A deception fire plan will normally be arranged at battle group level to cover the lack of activity once patrols withdraw.

Withdrawal by Night

0419. When a dismounted platoon withdraws from a position at night, the first to leave will usually be the reserve section or sections and the platoon HQ, less the platoon commander, signaller and runner. These troops withdraw to the platoon RV where they wait for the rest of the platoon. The platoon sergeant (if available) or the rear (or reserve) section commander is in command of the platoon RV until the arrival there of the platoon commander. The rear section is responsible for organizing the RV and also for protection, controlling and directing the remainder of the platoon until the platoon commander arrives. Protection and control are vital; everyone must be silent. The forward section or sections then withdraw. Normally a section will withdraw complete, the section commander personally going to each fire trench, collecting the members of the section and moving back to the platoon RV.

0420. On occasions forward platoons and sections may have to extract themselves by fire and manoeuvre. In such circumstances the GPMG groups will normally cover the withdrawal of the rifle groups. Section commanders will remain with them to conduct this fighting withdrawal.

0421. On arrival at the platoon RV, section commanders will check their sections and report in to platoon HQ.

0422. If casualties are sustained during this part of the withdrawal, improvised stretchers may be required to get them back to the platoon RV and possibly as far as the combat team RV.

0423. The platoon commander will leave the position with the last section to withdraw. When all are clear he will rejoin the platoon at the RV, and lead it through the combat team check point, to the combat team RV.

0424. The combat team check point is used to maintain control between platoon and combat team RVs. Platoons will not stop, but report verbally their identity to whoever is manning the check point, usually the CSM.

0425. At the combat team RV the platoon commander checks his platoon and reports to the combat team commander. The first platoon to arrive at the combat team RV will normally be responsible for its protection.

0426. Time spent in RVs must be just sufficient for a rapid check of sections and platoons to be carried out and stragglers collected, before moving on to the next control point. Sections and platoons will adopt pre-arranged positions of all round defence in RVs.

0427. When withdrawing the speed of movement will depend on such factors as ground, visibility and enemy fire. It must be at a good pace but slow enough to avoid confusion and prevent panic. Security is important as well as speed. A column of troops, marching briskly down a track with heads down and minds blank, courts disaster from enemy infiltrators or saboteurs. (*See* Fig 25 for a suggested pattern of withdrawal).

0428. ***Support Weapons.*** MFCs remain until the forward platoons withdraw.

0429. ***Other Arms.***

a. Whether tanks are withdrawn at last light, thinned out early or remain to the last depends on:

(1) The ground and routes available.

(2) The degree of surprise required. If tanks move early they may prejudice security.

(3) The enemy tank threat. Tanks can remain until last but must have some infantry protection.

b. In a non-mechanized battalion the infantry and tanks must withdraw on separate axes.

c. FOOs will leave with the last infantry to give fire support up to the final abandonment.

0430. ***Surveillance Equipment.*** Surveillance devices will assist forward platoons in detecting and locating enemy follow up movement, but intruder alarms will have to be taken up in good time.

0431. ***Non-Essential Kit and Equipment.*** All non-essential kit and equipment should be backloaded as early as possible.

Withdrawal by Day

0432. By day it is extremely difficult for leading troops to break contact quickly without being seen. A daylight withdrawal is not desirable but it may be unavoidable.

0433. When in contact with the enemy, forward platoons will withdraw covered by the reserve platoons. Maximum use must be made of communications to use all fire power available from artillery and tanks. If enemy pressure is heavy, forward platoons will have to take up intermediate positions to cover the withdrawal of reserve platoons. They will then continue to leapfrog back until a clean break has been made. It is essential to avoid a running fight and the enemy must be hit sufficiently hard to prevent him closing in and maintaining contact with the withdrawing forces.

0434. At platoon level, in extreme cases, this may mean the section gun groups covering out the rifle groups. They will leapfrog back in the same way as platoons, but bounds must not be too long as control during this phase is extremely important. Fire and manoeuvre will only be used to enable forward platoons to break contact. Once they have achieved freedom of movement they will move back as a platoon. The platoon commander must, of course, position himself well forward so that he can control the movement of the sections in contact.

0435. *Reserved.*

SECTION 41—OCCUPATION OF A NEW POSITION

0436. Before the forward position is abandoned, reconnaissance parties must move back to reconnoitre and plan the layout of the new position. In a platoon this task is usually carried out by the platoon sergeant who accompanies the combat team reconnaissance party under command of the combat team 2IC. He will usually have with him at least one soldier from the platoon who will act as a guide. Ideally he would have one per section.

0437. At the new position the platoon sergeant will act under the orders of the company 2IC. When the platoon arrives he will effectively take command of it until the platoon commander has acquainted himself with the layout of the platoon. The position will have been spitlocked or taped by the platoon sergeant and the guide, to make occupation quicker.

0438–0440. *Reserved.*

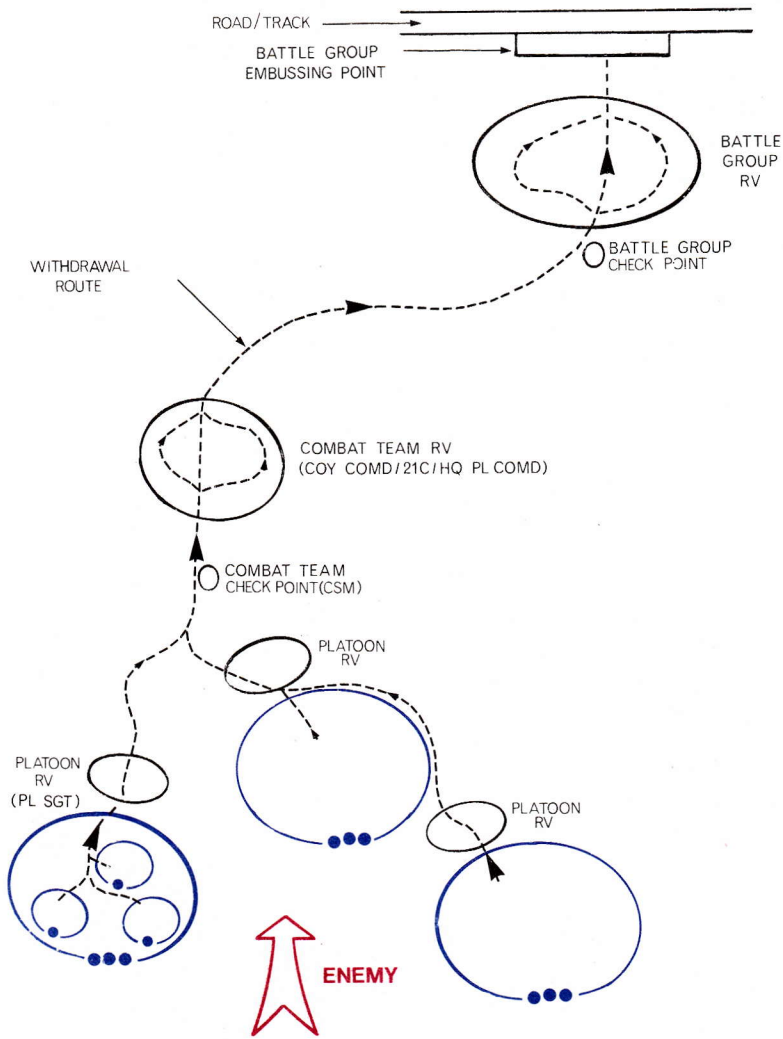


Fig 25.—A Battalion Withdrawal Control Organization

SECTION 42—MECHANIZED WITHDRAWAL

0441. The APCs of a combat team enable it to make a clean break and conduct a very speedy withdrawal by night or day. Mortars and anti-tank guns can stay in action and radars operate to the very last minute.

0442. The same basic procedures apply except that because of the better communications, control arrangements can be relaxed and checks conducted by radio rather than done physically. Reconnaissance of the first part of withdrawal routes is still very important for a night withdrawal.

CHAPTER 5

RELIEF IN PLACE

SECTION 43—PRINCIPLES

0501. Relief in place is a common operation in non-nuclear war or during security operations. While it is in progress, both the incoming and outgoing units have many troops in the forward area at the same time. This not only increases their vulnerability but if the enemy attacks, command and control are difficult to exercise. In the interests of morale, the troops' first introduction to a new area should be conducted calmly and with speed and efficiency. Relief by a mechanized platoon is considered separately in Section 46.

Aim

0502. The aim is to relieve troops in contact with the enemy maintaining the position secure and intact without the enemy's knowledge. To do this there must be:

a. Complete secrecy.

b. Control.

c. Speed.

d. Normal activity.

Secrecy

0503. With the inevitable concentration of soldiers up front any inkling of a relief is bound to bring sharp and violent enemy reaction. Casualties would be proportionately high. The most usual causes of failure are:

a. Poor battle discipline and disregard for movement by the relieving advance party.

b. Increased radio activity.

c. Change in the normal pattern of activity prior to and during the relief.

Control

0504. There must be absolute control throughout the operation and the time that command passes must be meticulously and clearly stated and understood by all ranks. This, together with a sound and simple plan which covers arrangements for guides, check points, route marking, movement on foot and in transport, patrols, diversions, etc., is the basis of control.

Speed

0505. The shorter the time both units are in the position together the better. A thorough knowledge of relief drills at all levels is essential as is a high degree of discipline and consideration by those leaving the forward positions.

Normal Activity

0506. The normal daily pattern of activity whether it is in patrolling, digging, wiring, harassing artillery fire, wireless 'chit chat', or the arrival of rations and maintenance convoys must be seen and digested by the enemy. Nothing must be done to suggest that this is a special day.

0507–0510. *Reserved.*

SECTION 44—PLANNING AND PREPARATION

Warning Order

0511. A battle group can usually expect to receive its warning order about 48 hours in advance. The platoon commander is given all available information by his company commander. After passing this on to the platoon sergeant and section commanders, he will go on the reconnaissance with the battle group or combat team advance party. Whenever possible the platoon commander and runner and section commanders should see the ground in daylight.

Composition of an Advance Party

0512. This will be laid down in battalion SOPs but may have to be varied, depending on the situation.

a. *Normally.*

(1) Platoon commander and runner.

(2) Three section guides.

b. *If Possible.*

(1) Section commanders, especially important if the platoon is to be a forward platoon in a forward combat team location.

(2) Platoon sergeant. He is unlikely to be available as he will be commanding the platoon in the absence of the platoon commander.

c. *Additionally.* Patrol groups will be required early so that continued patrolling can be maintained, before, during and after relief.

Advance Party Duties

0513. The duties of the platoon commander on the advance party are:

a. To shadow his opposite number in the battle area and get the maximum possible information about the position and the enemy.

b. To make sure that all the necessary arrangements are made to enable the relief of the platoon to be carried out swiftly and smoothly.

0514. Both the platoon commander and his runner should try to combine inquisitiveness and tact. The platoon commander should list all the points on which information is needed before he leaves with the advance party as there are far too many to carry in his head. They include:

a. *Enemy Forces:*

(1) Opposing units/formations.

(2) Known locations, including tanks and supporting weapons.

(3) Minefields, wire and obstacles.

(4) Known DF areas and fixed lines.

(5) Shelling.

(6) Habits.

(7) Patrol activity.

(8) OPs and surveillance devices.

(9) Morale.

(10) Probable intention.

b. *Friendly Forces:*

(1) General layout of the battle group with special regard to flanking platoons or combat teams.

(2) Detailed dispositions for the platoon, including the number of fire trenches for each section.

(3) Section arcs of fire.

(4) GPMG fixed lines and arcs of fire. Ideally the outgoing unit's GPMG (SF) tripods and aiming posts should be left in position in exchange for the incoming unit's.

(5) MAW arc of fire.

(6) Likely tasks for the light mortar.

(7) Positions of trip flares.

(8) Position on the ground of DF and GPMG (SF) tasks and how they are called for.

(9) Position and tasks of any support weapons in the platoon locality or firing across the platoon's front and how this support is called for.

(10) Range cards.

(11) Maps and air photographs.

(12) OPs and details of patrols out.

(13) Wire, obstacles and minefields, and gaps and lanes through them.

(14) Approaches and dead ground.

(15) Surveillance plan, including location and tasks of intruder alarms and, if available, radars.

c. *Service Support:*

(1) Reserve ammunition.

(2) Defence stores, including reserves of wire and mines.

(3) Casualty evacuation.

(4) Water supply.

(5) Feeding arrangements including reserve rations.

(6) Sanitary arrangements.

d. *Command and Signal:*

(1) Track plan and runners' routes.

(2) Location of neighbouring platoon HQs, combat team HQ and battle group HQ.

(3) Position of line if laid.

(4) Light signals.

(5) Inter-trench communication system.

(6) Outgoing unit's password.

(7) Alarm signals for gas, air and nuclear attack.

Platoon Preparations

0515. While the platoon commander is away with the advance party, the platoon sergeant must ensure that the normal administrative preparations are completed. These include inspections and replacing ammunition and kit deficiencies, washing, provision of canteen supplies, etc.

0516. The platoon commander will do as much briefing as possible before he leaves with the advance party. If time allows he should return to give any final briefing and then go back to the new position. If he cannot do this

the briefing will be given to the whole combat team by the 2IC. The following must be included:

a. An explanation of the ground together with the procedure for relief and the system of check points.

b. Action if attacked.

c. What to do and what to expect in the way of lights and shelling.

d. Emphasis on silence, keeping contact with the man in front and speed.

0517. Rehearsal should include the drill for taking over platoon and section localities in detail.

0518–0520. *Reserved.*

SECTION 45—RELIEF PROCEDURES

Control Points and Guides

0521. Four control points in the combat team area affect the platoon:

a. *The Debussing Point.* If the initial move is in vehicles, the debussing point will be as far forward as possible without giving away security through the noise of vehicle engines. The combat team with its supporting detachments will arrive under the combat team 2IC. An officer and a protection party from the incoming battle group will be on duty nearby. A guide from the outgoing battle group will be allocated to lead the combat team forward or to a waiting area if there is any hold-up.

b. *Battle Group Check Point.* The battle group check point is set up so that the commanding officer can check the progress of the relief. There is no halting at this check point and combat teams march straight through.

c. *Combat Team Check Point.* The combat team check point is where the advance party, usually the platoon commander, his runner and section guides wait for the platoon. Also waiting at the combat team check point are:

(1) The combat team commander and his orderly.

(2) The other platoon advance parties.

(3) A guide for each platoon from the outgoing battle group.

(4) NCOs in command of support weapons in the combat team area.

(5) The CSM from the outgoing combat team who will be in charge of this point.

d. *Platoon RV.* The platoon RV will be close to platoon HQ. The platoon commander and guides must know the route to this RV from the combat team check point and the platoon commander must have picked a platoon waiting area for use in the event of a hold-up. On the move to the platoon RV the platoon guide should lead and the platoon commander should move behind the leading section to reduce the chance of the guide and himself becoming casualties at the same moment. The platoon sergeant should check the platoon through the combat team check point and bring up the rear. At the platoon RV, guides from the outgoing platoon meet each section. There is no halting, sections being led off to their respective positions without delay.

e. *Guides.* Guides must be briefed carefully and, in addition to knowing the routes, they must know the area allotted to their sub-unit in the waiting area at the debussing point and any waiting areas sited at check points.

Action in Platoon and Section Localities

0522. The sequence of events is:

a. Before the platoon arrives, the advance party gives the names of the men in each section to outgoing section commanders, arranging with them which trenches they are to occupy. The outgoing section commander leads the incoming section to their trenches in pairs or more as the case may be.

b. On reaching the trenches, the incoming men at once lie down behind the trenches or occupy shelter trenches if caught under enemy fire. These must be clear of kit belonging to the outgoing section which will stand to throughout the relief.

c. Both section commanders then go to each trench in turn. The outgoing section commander briefs the incoming men on their arcs of fire and any other important detail, all of which must be noted by the incoming section commander.

d. Next, all incoming section commanders report to their platoon commander that they are ready to take over. The platoon commander informs his combat team commander and asks permission to complete the relief.

e. When this is given the two platoon commanders stay at platoon headquarters ready for any emergency whilst either:

(1) The section commanders, when they return to their

position, give the order to the outgoing section commanders to change, or

(2) The two platoon sergeants move round the position to give the order to change. This is an excellent opportunity for the incoming platoon sergeant to see the position.

f. When this has been done, the platoon sergeants will report to their platoon commanders and the outgoing platoon commander with his HQ will move back to the platoon RV. His platoon will not wait there longer than is necessary to ensure that it is complete before moving on to the combat team check point and combat team RV, following the normal withdrawal procedure.

g. After the outgoing platoon has left, the incoming platoon commander will report that the relief has been completed to his combat team commander. Meanwhile the incoming soliders stand to.

h. When the relief has been completed, the incoming platoon commander will send two runners to combat team HQ. One will stay, the other will come back. This ensures that at least two men know the routes. The runner to come back will usually be the one who was with the platoon commander on the advance party.

i. The incoming platoon will continue to stand to until the combat team commander orders it to stand down.

Communications

0523. Points to be noted are:

a. There are three means of communication available during the relief and they should be used in the following order of priority:

(1) Line.

(2) Outgoing combat team's radio net.

(3) Incoming combat team's radio net.

b. Radio traffic must be kept at the normal level so as not to arouse the enemy's suspicions. When this cannot be ensured, traffic must be confined to the outgoing battle group's net which is already known to the enemy and this net is monitored by the incoming unit.

c. The incoming battle group must keep radio silence for as long as possible. Rules for breaking radio silence will be laid down and must be strictly observed.

Protection During Relief

0524. Before the relief, the incoming battle group arranges for the protection of its debussing point and check points. Protection for the

relief itself is given by standing and fighting patrols:

a. Standing patrols can be changed over during the relief in combat team areas after the incoming platoons have taken over. Ideally, however, these patrols should go forward with the advance party and be in position before the main relief begins.

b. Fighting Patrols.

(1) Responsibility for providing fighting patrols lies with the outgoing battle group unless the commanding officers agree otherwise.

(2) They should stay out all night and rejoin their own battle group next day.

(3) If these patrols come from the incoming battle group, patrol commanders and members of the patrol must go forward with the advance party and be given the usual opportunities for reconnaissance and briefing. It is helpful if these patrol commanders can go out the night before with a patrol from the outgoing battle group so as to get to know the ground.

Change of Command

0525. The arrangements and time for the change of command are agreed between the commanding officers before the relief takes place and orders for it issued down to platoons. Command normally passes at each level as follows:

a. Platoon, when all three sections have been relieved.

b. Combat team, when two or more platoons, including the forward platoons, have completed relief.

c. Battle group, when two or more combat teams, including the forward combat teams, have completed relief.

0526–0530. *Reserved.*

SECTION 46—RELIEF BY A MECHANIZED PLATOON

0531. The relief of one mechanized infantry combat team or platoon by another under static conditions and in contact is likely to be a rare occurrence. However, if it is necessary the procedures described above can be adapted to meet the situation.

0532. The enemy must not be presented with a target which will attract nuclear or air attack, therefore platoons should be relieved

individually within combat teams. Positions will be more dispersed and distances to RVs greater therefore it will not be a speedy operation.

0533. The greatest problem will be the noise made by APCs moving so a noisy artillery deception plan may be necessary.

0534. The relief of a platoon which has suffered heavy casualties by another is not a normal relief operation and would be conducted as a regrouping operation out of contact.

CHAPTER 6

FIGHTING IN BUILT-UP AREAS

SECTION 47—CHARACTERISITICS

0601. The general principles of attack and defence hold good for operations in built-up areas. However, their applications will be considerably affected by the conditions and the extent of the buildings which could range from a small village or farm complex to a large city. It is often easier to defend a built-up area than attack it, and small bodies of determined troops can hold out for a considerable time except in smaller villages. This may encourage an enemy with a CW capability to use chemical weapons against them.

0602. The brunt of fighting in any built-up area will be borne by infantry and fought mainly at platoon level, so it is important that platoon and section commanders have a good knowledge of the special characteristics of this type of fighting. These are:

a. *Restricted Fields of Fire and Observation.*

(1) Inside buildings, weapons will be sited well back from windows thereby giving concealment to the firer; fields of fire being sacrificed to achieve surprise and protection.

(2) Observation will be limited except for streets and open areas such as squares and parks. The attacker and defender will both cover these open areas by aimed fire.

(3) Supporting weapons will have to be much further forward to support the attacker.

(4) Close mutual support will be difficult.

(5) Control will be difficult and much will depend upon the leadership, initiative and procedural expertise of junior commanders.

b. *Cover from View and Fire.*

(1) A built-up area offers excellent cover and concealment for both the attacker and the defender; the defender has the advantage, as the attacker must expose himself to move through the area.

(2) The effectiveness of cover depends upon the density of the buildings and the nature of their construction. Buildings constructed of flimsy or inflammable materials are easily

destroyed or burned and may prove a death trap for those using them.

(3) Buildings built of heavy stone and concrete with thick walls and cellars give excellent cover even when bombardment has reduced them to rubble.

c. *Difficulty in Locating Enemy Fire.*

(1) The attacker will have difficulty in locating fire as the majority of weapons will be sited back from windows and doors and in a number of cases they will be fired through small slits or loopholes.

(2) Observation will be difficult because of the smoke and dust which collects and hangs in the streets.

(3) Sound is magnified and echoes between buildings and streets.

(4) Indication of targets will be difficult. Tracer is the only effective method of target indication under these conditions.

d. *Close Quarter Fighting.*

(1) The fighting will be at very close quarters. The enemy will be in the next room, the next building, the other side of the street.

(2) Hand to hand fighting is a probability rather than a possibility if we are fighting a determined enemy.

e. *Snipers.* Experience has shown that MAWs and LAWs are most efficient weapons with which to deal with enemy snipers in built-up areas. MAWs or LAWs should be aimed not to fire through the window/door or aperture used by the sniper, but rather to hit the masonry just below the window or at the side of the door or aperture.

f. *Vehicle Movement.* Vehicle movement is restricted as they are subject to ambush and close range attack. Vehicles will require protection.

g. *Supporting Arms.*

(1) The use of artillery will be limited but its support on occasions can be extremely effective.

(2) Armour can give very effective close support.

(3) Tanks will require all round protection from infantry whilst in the battle area.

h. *Communications.*

(1) Effectiveness of VHF radios will be considerably reduced due to screening by buildings, and interference from high tension wires.

(2) Use will have to be made of light signals, flags and torches.

(3) Use should be made of tops of buildings for remote antennas and relay stations.

i. *Civilians.*

(1) The presence of civilians may hamper operations especially in a friendly country.

(2) The treatment of civilians will vary from theatre to theatre and experience will normally govern the methods used to deal with them. A humanitarian approach should always be followed.

j. *Devastation.* Devastation caused by indiscriminate air attack, shelling or nuclear weapons will severely hamper movement, particularly that of the attacking force.

0603–0605. *Reserved.*

SECTION 48—CONDUCT OF OFFENSIVE OPERATIONS

Principles

0606. At platoon level the principles for attacking a built-up area are:

a. Simple planning.

b. Control.

c. Thoroughness.

d. Momentum.

e. Covering fire.

0607. ***Simple Planning.*** The platoon commander must make a simple plan. He will achieve this by:

a. Choosing short bounds and limited objectives, a room or house at a time.

b. Having a firm base from which all movement can be covered by fire.

0608. ***Control.*** Control in street fighting is difficult because of restricted observation, and fighting tends to be by small independent actions. It therefore demands initiative and aggressiveness at the lowest

level and decentralization of control. Platoon and section commanders must therefore always be well forward. In clearing streets or a village the area will be divided into sectors on a combat team basis and platoons and sections given limited objectives within these sectors.

0609. ***Thoroughness.*** Each objective must be cleared thoroughly and consolidated. Every building, room, attic, cellar, garden shed, and all large drains and sewers must be checked. Walls must be checked for 'mouseholes' (holes about 0.75 metre diameter through which men can pass) especially in the upper floors and attics of terraced houses and flats.

0610. ***Momentum.*** The attack must be planned in depth and the platoon commander must be well forward to take quick decisions and issue quick orders for 'crash action' attacks. As each objective is taken reorganization must be carried out rapidly. This will ensure that the momentum of the attack is maintained.

0611. ***Covering Fire.*** Open spaces, particularly main roads, will be killing grounds covered by enemy fire. Before crossing these spaces there must be covering fire, whenever possible, from the other side. No section will move into the open unless a covering group is supporting it. Maximum use must be made of smoke and all the weapons at the platoon's disposal.

Supporting Arms and Weapons

0612. ***Artillery and Mortars.*** Artillery and mortars can be used to soften up the enemy held area before the attack and to harass and hinder the movement of reinforcements during the attack. Close support will be difficult because of the hand to hand nature of the fighting but FOOs and MFCs moving well forward should be able to bring down fire as close as the next street or one block of buildings away. White phosphorus can be used to start fires to divert some of the defender's resources to fire fighting, but the direction of the wind and the effect of the smoke must be carefully considered. The 81 mm mortar has a delay fuze which can be used to get bombs to explode inside buildings.

0613. ***Tanks.*** Tanks are very effective in supporting infantry by blowing entry holes in the more substantial buildings with their main armament and supporting the assault with their machine guns. As this support will be at short range the tanks should be close enough to infantry to be protected by them, perhaps by a reserve section or platoon. They can also give physical cover to men crossing bullet swept areas.

0614. ***Engineers and Assault Pioneers.*** The main tasks of the engineers and assault pioneers in the attack will be opening up routes for vehicles and clearing mines and booby traps from captured buildings.

0615. ***Anti-Tank Platoon.*** If the platoon is not needed on the flanks of the built-up area it could be valuably employed:

a. As stretcher bearers.
b. For ammunition re-supply.

0616. ***APCs may be used.***

a. For the movement of reserves.
b. To supply ammunition and explosives.
c. For the evacuation of casualties.
d. For command posts.

0617–0620. *Reserved.*

SECTION 49—PLANNING AND PREPARATION

Planning

0621. Fighting through a built-up area will be planned in detail from maps, air photographs, town plans, patrol reports and informers' statements.

0622. The battle group commander will divide the area into sectors which will be allotted to combat teams. Each sector will be attacked systematically with platoons having limited objectives. Buildings will be given as objectives to sections, or if a building is large enough, to a platoon.

0623. Troops should avoid approaching streets and open areas, if possible, and should take advantage of the cover offered by buildings, ditches and sewers.

0624. Streets should be cleared along their length, with sections advancing from house to house by 'mouseholing', over roofs or through back gardens or sewers. Although the attack will be planned in depth reserve sections and platoons will be passed through as leading platoons and sections are halted and not to a fixed plan.

0625. In this type of operation two platoons should operate in parallel on opposite sides of the street with the reserve platoon held close to hand.

Battle Preparation

0626. Additional preparations for battle are required before a platoon begins clearing a built-up area:

a. *Equipment.*

(1) Webbing should be adjusted so that the soldier can easily get through narrow passages and holes.

(2) Officers and NCOs must carry binoculars, matches, chalk, torches and morphia.

(3) Toggle ropes and grappling hooks should be issued to assist in climbing walls.

(4) Rope ladders should, if possible, be made available.

b. *Ammunition.*

(1) All men will carry additional SAA and grenades in packs slung from the shoulders.

(2) Extra anti-tank ammunition, light mortar smoke, and prepared explosive charges for mouseholing should also be carried.

(3) Carrying parties, vehicles or tanks will be arranged to resupply leading troops.

(4) All ranks must carry tracer to indicate targets.

c. *Medical.*

(1) Extra shell dressings and morphia should be carried.

(2) Casualty collecting points should be arranged. Company stretcher bearers will carry men back from these points to the RAP or ambulances.

(3) Extra drinking water should be available as far forward as possible.

d. *Feeding.* Feeding will be difficult due to the close quarter fighting. Every effort should be made to get hot food forward during a lull in the battle.

e. *Evacuation of Prisoners and Civilians.* Arrangements will have to be made for the evacuation of prisoners and civilians. Civilians must be kept off the streets and at platoon and section level it is best to get them into a cellar or any protected area away from the immediate battle.

0627–0630. *Reserved.*

SECTION 50—HOUSE CLEARING

0631. All attacks on built-up areas involve gaining a foothold and then clearing the area methodically to prevent its reoccupation by the enemy as the advance progresses.

0632. The basic sub-unit for clearing a house is the section which can clear a small house of up to about six rooms. Anything larger, like a row of houses or a large country house, takes a platoon with sections leap-frogging, vertically or horizontally as the case may be.

Section Drill for Clearing a House

0633. The section will be organized as follows:

a. Section commander.

b. Assault group—two entry men
two bombers
one lookout

c. Covering group—section 2IC and GPMG No. 1.

0634. On receipt of orders the section commander will reconnoitre his objective, make out his plan and issue orders to include:

a. Point of entry.

b. Covering fire (to include smoke if necessary).

c. Any support from other sections or tanks.

0635. The drills for clearing parts of a building are:

a. Throw a grenade into room and, immediately after it has exploded, enter. Engage the enemy with bullet and bayonet.

b. Shoot into any cupboard or likely hiding place. Move furniture to ensure it is not concealing a 'mousehole'.

c. Shoot into the ceiling or floor to discourage enemy who may be above or below.

d. When mounting stairs movement must be covered by fire and be swift. If possible, get a tank machine gun or GPMG to fire into the upper storey and then rush the stairs.

e. In passages keep to the sides and take cover in doorways.

0636. The drill for a section clearing a house is:

a. The covering group will take up a fire position to cover the point of entry and, if possible, act as cut off. To get to its position it may require fire support or smoke from the assault group.

b. When the GPMG fires, the two entrymen will enter the house preceded by a grenade from the bombers. Once in the house they will clear the room shooting into the ceiling or floor and any cupboards. They will shout "*Clear*" and make the pre-arranged signal to the section commander and covering group. If possible, the building should be entered from the top storey. Tank fire, MAW/LAW or pole charges should make a suitable means of entry.

c. The section commander, bombers and look out enter the house on the 'all clear' signal. The bombers clear the house, room by room, storey by storey, from the roof to the cellar, leaving the look out at the point of entry and the entrymen covering stairs and landings. The look out is the means of communication with the covering group and the remainder of the platoon.

d. When the house is clear the section commander will reorganize in the area of the house. He will cover all likely enemy approaches including the roof and cellars. The GPMG will cover the most likely enemy approach or take up a position to cover the next move forward. Whether reorganization takes place inside or outside the house depends on the cover available. Outside is preferable but in this case sentries must be posted to prevent enemy infiltrating back into the house.

Platoon Drill for Clearing a Building

0637. The platoon will be organized as follows:

a. *Clearing Section.* They will assault the house and clear it as explained above.

b. *The Covering and Cut Off Group.* This may initially consist of the remainder of the platoon and the covering group from the clearing section.

c. *The Reserve.* This will probably be the other two sections which initially give covering fire, and later, with or without their gun groups depending on the cut off plan and size of house, are led by the platoon commander with his runner into the house. The platoon sergeant is placed in charge of the covering and cut off group. It may be necessary for some part of the reserve to be used for bringing forward extra ammunition and evacuating casualties.

0638–0640. *Reserved.*

SECTION 51—CLEARING A STREET

0641. In clearing a street, two platoons may work in parallel along opposite sides, their advance being controlled by the company commander.

0642. The platoons will move forward alternately giving fire support to each other.

0643. Each platoon commander must first arrange covering fire for the leading section to enter the block he is to clear. The section must clear the first house, which is then made into a firm base. Men from this section should be posted so that they can cover the second section when it passes through them to secure the next house. Sections must be kept within easy reach by voice and hand signal.

0644. Sections advance from house to house by 'mouseholing', working through walls, over roofs, through sewers or back gardens and keeping away from the open street exposed to enemy fire. Ideally each house is entered at the top and cleared downwards. There must be thorough reorganization in each house as it is cleared, including outhouses and cellars. Reorganization should be on the ground floor and not the top floor. Holding dominating buildings, isolating empty buildings by fire and careful siting of snipers will help to stop enemy infiltrating into houses already cleared. By night this will be more difficult than by day.

0645. *Reserved.*

SECTION 52—CLEARING A VILLAGE

0646. Very small villages, of only four or five houses, or large farms may be given to a single platoon to clear. The method of clearing is similar to street fighting but with certain variations.

0647. The drill for clearing will be:

a. *Cut Off Party.* The cut off party should consist of the platoon sergeant with a section gun group. It should work its way to the rear of the village or farm without being seen and get into a position where it can cover the enemy's likely line of retreat. Clearing will not start until it is in position.

b. *Covering Section.* The covering section will get into a fire position to cover the main street or farmyard.

c. *Assault Section.* The assault section will clear from the rear of the house, the aim being to drive the enemy into the killing ground of the street or the farmyard.

d. *Signals.* A pre-arranged signal should be given by the platoon commander to indicate that the village or farm is clear and that it is safe for his own men to come out of the buildings.

e. *Platoon HQ.* Platoon HQ should be located in the area of the covering section, with the task of protecting its rear and providing reinforcements. The platoon commander should establish himself in a good OP (as near the covering section as possible), from which he can read the battle and send reinforcements where they are most needed. He should co-ordinate the clearing and not remain permanently with one section.

0648. The following general points should be borne in mind:

a. The defenders may not necessarily occupy the buildings. Gardens or rough ground may provide better, less obvious cover.

b. Although all the available grenades must be given to the assault group, men must not become too grenade minded. If they throw grenades into every room they will soon exhaust their supply and will have none available when they are most needed. This is a matter of battle discipline.

c. Shoot through all doors, ceilings or wooden walls before entry, but search carefully as well. Do not assume that everyone has been killed. The enemy may lie down or may stand against a wall when being fired at through the ceiling. Bear in mind, however, that civilians may still be inside the house.

d. If the houses have front gardens, investigate these carefully from the upper windows before passing on to the next house. If these front gardens are very large, special arrangements will have to be made for the covering section to move up and clear them.

e. The covering section must keep moving up as and when necessary. Clearing should not go on unless the main street or farmyard is covered. The covering section should advance by fire and manoeuvre and should form its own assault group when it cannot be backed up by one of the assault sections. Some houses cannot be entered except from the main street. These can best be cleared by the covering section as it moves forward.

f. Remember booby traps. If something looks particularly inviting to move—'beware'.

0649–0650. *Reserved.*

SECTION 53—DEFENCE OF A BUILT-UP AREA

Conduct of the Defence

0651. In defence in a built-up area, section and platoon strong points are grouped to form combat team defended localities. These localities will be sited in depth throughout the area and organized for all round defence.

0652. Whenever possible mutually supporting fire positions will be taken up outside the buildings, but buildings will have to be used in towns and cities unless bombardment has created areas of rubble which often provide better concealed and less vulnerable positions. Streets and open areas are the killing grounds for both sides and so must be avoided.

0653. Streets should be blocked and the blocks covered by fire from nearby houses or other vantage points.

0654. Small mobile reserves will be held centrally to help eject any enemy who has infiltrated into a defended locality.

0655. Fighting will be at short ranges, and once a firer is spotted, he can be easily neutralized; by moving his position occasionally he will be difficult to locate.

0656. The defence must be aggressive with the attackers harried by day and night. This can be achieved by re-infiltrating into buildings previously evacuated or captured, and by sniping and booby trapping buildings which cannot be occupied. Heavy casualties will reduce enemy morale and make his men careless. This is the time to hit back.

0657. Uncer a nuclear threat the defence must be prepared to be more mobile and not rely so much on fortified strong points. To defend a small village entirely from buildings will invite a nuclear strike.

Supporting Arms and Weapons

0658. ***Artillery and Mortars.*** Airburst shells can be used effectively on enemy moving in the open. Fire support of this type can be close to our positions provided these are well protected with good overhead cover. 81 mm mortars can be fuzed to explode inside buildings. Harassing fire can be most valuable in disrupting enemy reinforcement and resupply.

0659. ***Tanks.*** In defence tanks are best employed with infantry as mobile reserves. They can move to previously prepared and reconnoitred positions in the normal way. They should not be used as static pillboxes, but can use buildings as fire positions.

0660. ***Engineers and Assault Pioneers.*** The tasks of the engineers and assault pioneers include:

a. Demolition.

b. Mining and booby trapping.

c. Strengthening strong points.

d. Providing water for fire fighting.

e. In the case of assault pioneers, providing a small infantry reserve.

0661–0665. *Reserved.*

SECTION 54—PREPARING STRONG POINTS

0666. The preparation of a house as a strong point and the correct way to site weapons are illustrated in Figs 26–29. Additional points to note follow. More detailed information is contained in Military Engineering, Volume II, Part 2, Pamphlet No. 2, Field Defences 1970 (Army Code No. 70619).

0667. ***Public Services.***

a. Gas should be turned off outside the building as soon as possible.

b. Electricity should be turned off at the mains.

c. Water should be left on. In particular:

(1) All possible containers should be filled, including the bath.

(2) The lavatory should be kept working.

(3) As much as possible of the house should be soaked daily to reduce fire risk, and the cellar should be flooded to 150 mm (6 inches).

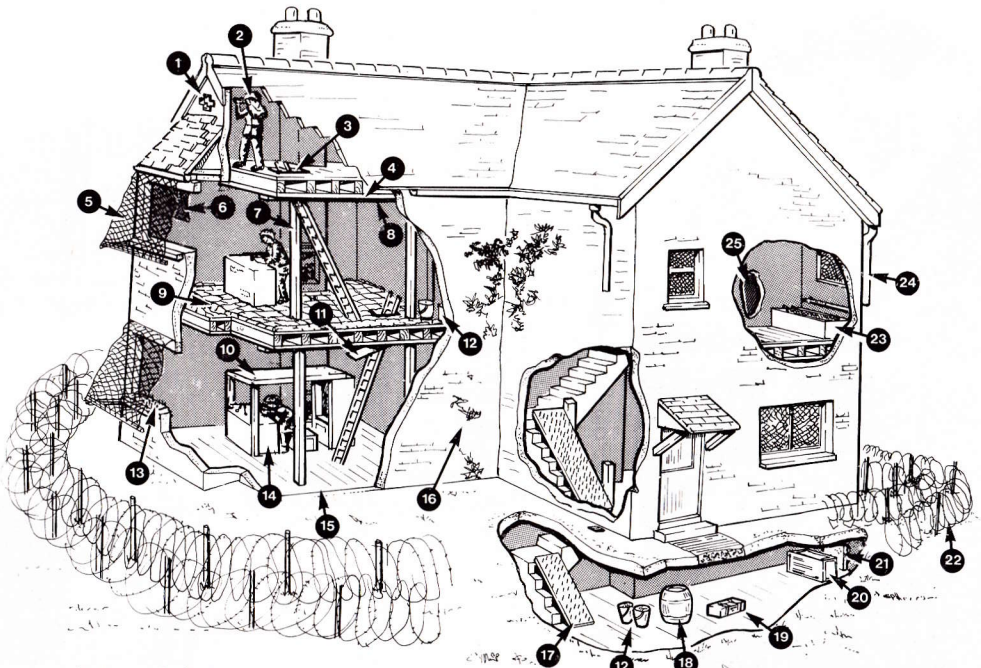
0668. ***External Defences.*** First select arcs of fire. Then:

a. Make fire ports where necessary.

b. Remove useful items from all outbuildings then demolish them to clear fields of fire. Tanks and APCs can assist with this demolition.

c. Place dannert wire firmly outside the house to prevent the attacker getting near enough to place pole charges. Anti-personnel mines should be placed in and around the wire.

d. Consider fixing CLAYMORE mines to the walls covering the wire.

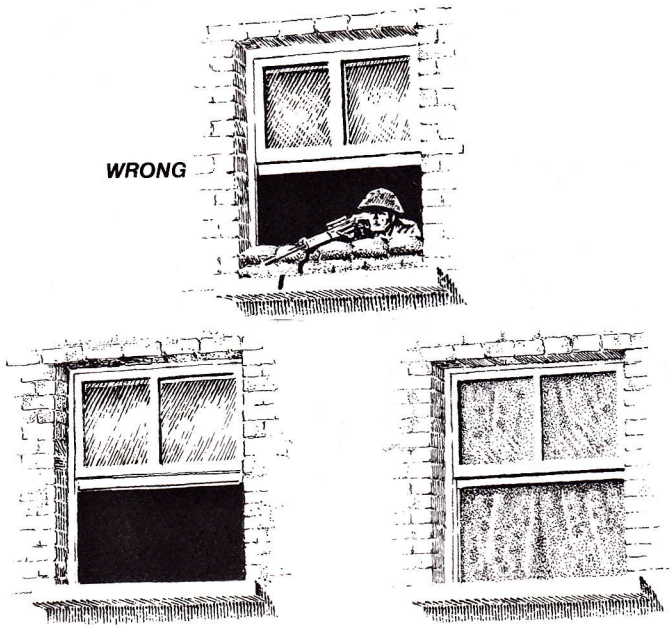


1. Small hole in wall under eaves
2. OP in attic
3. Opening in floor
4. Capsill
5. Wire netting
6. Curtain or sacking
7. Strut
8. Remove plaster or provide hard cover
9. 2 layers of sandbags on floor
10. Doors
11. Ledge (To impose delay)
12. Sand
13. Boards with nails on sill
14. Boxes filled with stones
15. Groundsill
16. Creeper removed
17. Boards with nails (narrow passage left for defenders)
18. Water
19. Ammunition
20. Packing case filled with stones
21. Door leading to emergency exit
22. Barbed wire obstacles thickend at corners
23. Bath filled with water
24. Rainwater pipe removed
25. Intercommunication hole in partition wall

Fig 26.—A House Prepared as a Strong Point

RESTRICTED

Fig 27.—A Fire Position Inside a Room



RIGHT – Build your sandbagged emplacement well back in a darkened room so that you are invisible from the outside.

RIGHT–BETTER STILL – A lace curtain allows you to see through it without being seen.

Fig 28—A Fire Position Inside a Building

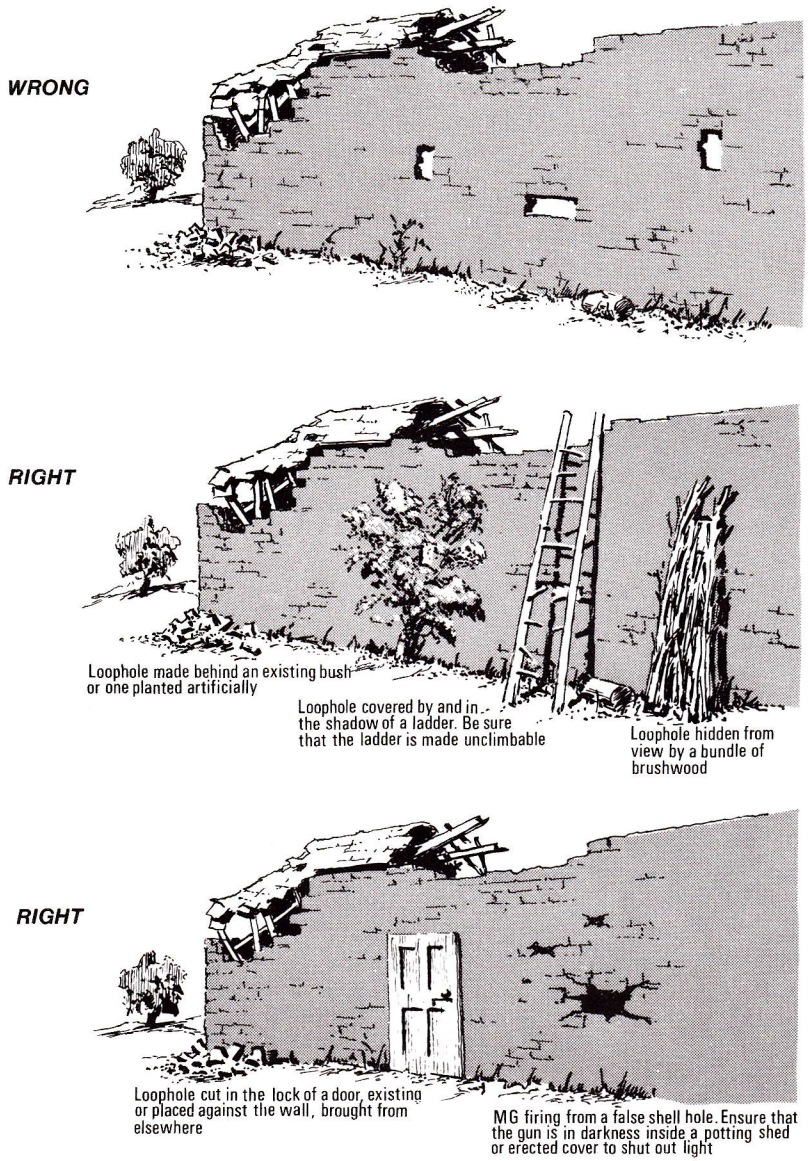


Fig 29.—Fire Positions Outside Buildings

e. Block, lock and nail external doors. All glass should be removed.

f. Remove all window glass and replace it by wire netting. When time permits windows should be sandbagged, starting downstairs. One result of this is that roooms will be made dark, a disadvantage to an attacker coming in from the light.

g. Cut down drainpipes, creepers and vines and so remove aids to climbing. If possible a drainpipe should be led inside to act as a water collector.

0669. ***Internal Defences.***

a. Undertake the following:

(1) Build a small 'coffin' around a firepost. This will give protection against enemy grenades and enable a defender to throw his own inside the room.

(2) Remove floorboards underneath downstairs windows. An attacker forcing a window will get a nasty surprise when he jumps through.

(3) Block internal doors. Cut 'mouseholes' for communication.

(4) Cut small holes in floors so that grenades can be dropped on an enemy below.

(5) When all other work has been done, remove or block stairways. Movement thereafter should be via holes cut in the ceilings through which ladders or knotted ropes can be lowered.

b. Wire and other obstacles inside rooms will slow down an attacker. CLAYMORE mines can be detonated in vacated rooms.

0670. ***Unoccupied Houses.*** As these will have to be cleared by the enemy their task can be made more difficult by locking the entry point.

0671. ***Dress and Equipment.*** The minimum should be worn to allow unrestricted movement through 'mouseholes'/trapdoors. NBC kit, steel helmet, respirator, water and maximum ammunition must be carried, and ear defenders should be worn. To save carrying all ammunition to the strong point a number of ammunition dumps along known withdrawal routes would be useful.

CHAPTER 7

FIGHTING IN WOODS

SECTION 55—INTRODUCTION

0701. Extensively forested areas are often associated with mountainous or tropical countries where extreme seasonal climates are prevalent. Tactical doctrine for fighting in such country is covered in Land Operations Volume V, Parts 1 and 2 (Army Code No. 70736) and in the Infantry Battalion 1975, Part 3 (Army Code No. 70740).

0702. This chapter is concerned only with operations which may take place in a central European theatre and specifically within the Federal Republic of Germany. On average one-third of the latter is wooded; but an even greater proportion of woodland prevails in the particular area where the British Army may have to fight.

0703. Fighting in woodland is primarily an infantry function. The tactical emphasis will fall, as in built up areas, on sections and platoons operating within the framework of a company or combat team operation.

Types of Wood

0704. Woods may vary in size from a small copse to a large forest which extends for several kilometres in all directions. These large wooded areas have a profound effect on tactical planning.

0705. Wooded areas will vary considerably, depending on the type and size of the trees. Deciduous trees will obviously offer less concealment in winter than conifers. Young woods will often be dense, affording accessible cover from view for infantry but not for vehicles. They will be no obstacles to tanks but could severely impede the movement of dismounted infantry. They will also give little cover from fire, and visibility will be poor. Mature woods will be an obstacle to vehicles and will give cover from the air. Visibility, however, will be greater at ground level, and infantry will be able to move relatively freely.

0706. All types of woods in Germany are characterized by straight rides interlacing them in a regular pattern. These are wide enough for tanks to use in addition to the road network.

0707–0710. *Reserved.*

SECTION 56—THE EFFECT OF WOODED AREAS ON TACTICS

0711. Wooded areas have three main effects on tactics; they reduce visibility and fields of fire, they affect mobility and they provide some measure of concealment from the air.

Reduced Visibility and Fields of Fire

0712. The extent of visibility and of fields of fire will vary according to the density of growth but can be as little as 20 metres. High ground will have reduced value for observation. Clearings and rides will be important for observation and fields of fire and the point of intersection of rides will be particularly significant.

0713. Tanks are very vulnerable to infantry short range anti-tank weapons and the value of the tank gun itself will be limited. Tanks deployed within woodland will always need close infantry protection.

0714. The use of other longer range direct fire weapons, e.g., GPMG (SF) and ATGW will be similarly limited.

0715. The use of artillery and mortar fire will be less effective as targets and also the locations of friendly forces will be difficult to identify; moreover, it will be difficult to direct or to correct their fire.

0716. In a wooded area, the area of ground that a platoon can hold will be greatly reduced. In positional defence a platoon's frontage in a dense wood may only be some 30 metres.

0717. Wooded areas have a major effect on VHF communications. Either radios of increased power will have to be used or alternative means of communication, e.g., line or runners, will have to be considered. The siting of platoon headquarters is likely to be dictated more by communications than any other tactical consideration.

Mobility

0718. Tracked and wheeled vehicles have reduced mobility in woods:

a. Tanks can push over most trees that are found in a German wood. However, they will be unable to do this indefinitely for they will tend to become bellied by uprising roots and earth. Therefore tanks will of choice use roads and rides, only moving off them when tactically necessary.

b. Wheeled and light tracked vehicles including APCs will be confined to roads and rides; on rides there may be problems due to

mud, dust or ice depending on the season of the year. These limitations make vehicles vulnerable to ambush.

0719. In these circumstances the defence may turn a wooded area into a formidable obstacle forcing the attacker to use existing roads and rides to achieve any speed.

0720. The movement of dismounted infantry will be impeded by the density of young trees. Amongst these, but also in more mature woodland, the effectiveness of usual navigational aids will be degraded. Thus infantry moving on foot will need to rely more on dead reckoning and sketch maps. Sometimes their progress on foot will be slow.

Cover from the Air

0721. Cover afforded by the canopy of foliage will vary according to the types of trees and also seasonally; nevertheless it will usually provide a significant measure of protection from view. Accordingly infantry moving on foot can exploit the advantage of surprise which this cover gives them.

0722–0725. *Reserved.*

SECTION 57—DEFENCE

0726. The main factors influencing the choice of defensive tactics over terrain which is extensively wooded will be the ultimate aim of the attacker coupled with the mission given to the defending commander. In this respect it should be realized that an enemy strong in armour will strive to advance quickly and therefore will avoid woodland if possible. Also, that the resources of the defence while they may be strong enough to divert the enemy towards woodland, may not be sufficient also to stop his progress through it.

0727. The defending commander's mission may be to deny woodland to the enemy, to delay the enemy's passage through it, or to destroy an enemy force drawn there as part of a large plan. In each case a particular defensive concept may be more appropriate, for example:

a. *Light Defence.* Denying the enemy passage by making the wood as formidable an obstacle as engineer resources will allow and deploying a few fighting patrols/ambushes into key areas.

b. *Coherent Defence.* Requiring forces of sufficient strength positioned to defend the extent of woodland in depth. This concept

may require defenders in excessive numbers which will seldom be available.

c. *Intermediate Option.* Deploying fighting patrols extensively to delay the enemy's passage by falling back through a series of intermediate ambushes to one strongly defended position.

0728. The intermediate option is examined in detail in this section; however it covers tactics which are likely to be common to other concepts. It is described in the context of a battle group area of responsibility which is wholly or extensively covered by woodland. Rear and forward edges of woodland which fall within a battle group's area are discussed subsequently.

Concept

0729. In general outline, this concept envisages:

a. A number of OPs sited forward of the wood.

b. The forward edge normally left undefended, as troops there could be extremely vulnerable to both direct and indirect enemy fire.

c. In the wood itself a number of roads and rides being left clear for the enemy to advance. These routes will all lead to the main defensive position which will be sited well back in the wood and concealed from both ground and air observation. All other roads and rides will be blocked by felling trees, by cratering and by mines.

d. The defenders successively ambushing the enemy along the routes left open and eventually falling back to the main position.

e. Some tanks and ATGW may be deployed to the main defensive position within the wood, or to cover certain key rides and junctions.

OPs

0730. OPs will be sited forward of the wood. They must be well concealed and have overhead protection. The assessment of troops to tasks is likely to result in the necessity to man many OPs with soldiers drawn from infantry sections. Only some of these OPs will be manned by specialist MFCs or FOOs trained to direct mortar or artillery fire. The remainder should contain at least one man capable of directing mortar or artillery fire. OPs will report the advance of the enemy towards the wood and on which routes he is advancing. OPs will be required to stay until the enemy launches his main attack in regimental strength and will only then withdraw. Withdrawal routes off main rides must be reconnoitred previously and will lead directly to the main defensive position.

Obstacles

0731. Many of the routes through the wood will have to be blocked as there will be insufficient troops to ambush every route. It follows that these obstacles must be substantial to prevent the enemy from clearing them easily. Engineer and assault pioneer advice must be sought but much of the work will have to be done by rifle platoons. The block will normally be based on felled trees or craters, but must be reinforced by anti-personnel and anti-tank mines to deter enemy engineers. Other routes will be left more or less clear to encourage the enemy to use them. These will be ambushed and it may be necessary to construct a small obstacle or lay a pattern of mines to stop the leading enemy vehicle. Low wire entanglements are particularly effective in woods to impede infantry.

Ambushes

0732. Ambushes will be laid between the forward edge of the wood and the main defensive position. These will be sited along the routes selected to be left open to the enemy. Ideally they should be of platoon strength but may well have to be a section only. In both circumstances a reserve is essential to help extricate ambush parties and to deal with any enemy infiltrating.

0733. The prime weapons in the ambush will be the platoon LAWs and GPMGs. LAWs will have to open fire at close range because the field of fire is limited and care must be taken that casualties are not inflicted upon own troops by the explosion of the projectile on hitting the target. The aim will be to knock out the first tank or APC, thereby blocking the route. As the enemy attempts to deploy, other weapons are used, e.g., GPMG fire, grenade necklaces, PDAT and anti-personnel mines.

0734. The ambush will withdraw after perhaps only a short engagement to a further reconnoitred and prepared position. However, this tactic will need to be varied otherwise the enemy will learn merely to press on. At naturally strong positions a longer and more aggressive delay can be imposed.

0735. The withdrawal of the ambush needs to be covered by fire. Artillery or mortar fire must be available and will be called for by the ambush commander. Such fire will need to be co-ordinated closely by the combat team commander (or platoon commander in a platoon operation) because of the danger to other ambush parties. The enemy may react quickly to an ambush and there is a need for some form of obstacle as a back up in case the leading enemy vehicle is not hit or following vehicles are able to bypass it. This could be mines or felled trees.

0736. Dismounted enemy infantry will be the main threat. Ambushes must have means of warning, e.g., trip flares or UGS. In the event of a major dismounted infantry attack, ambush parties will have no option but to withdraw to the main position.

0737. The detailed layout of an ambush is covered in Chapter 10.

Withdrawal into the Main Position

0738. The withdrawal of ambush parties into the main position will be a critical phase of the battle as ambush parties may be closely pursued. The following points should be given particular attention:

a. A fire plan must be made to cover the withdrawal. This could be based on the GPMG (SF).

b. The main position must be fully prepared, i.e., dug with overhead protection.

c. Ammunition must be stockpiled in trenches for immediate use.

d. The main position must be manned throughout, at least on a skeleton basis.

The Main Position

0739. The main position will be sited on ground of tactical importance and will include such areas as ride and track junctions or obstacles on the enemy's approaches, e.g., rivers or streams, exits from defiles or valleys, high ground or open spaces from which the approaches can be dominated. Sections and platoons must be mutually supporting but it will be rare to be able to achieve mutual support between combat teams. All the routes left open to the enemy must be ambushed and will lead to the main position. It is here that the final stage of the defence of the woods is fought. This position must be as strong as possible and will include mines, low wire entanglements and carefully planned interlocking arcs of fire. Fire trenches must have overhead protection. It will often be necessary to clear fields of fire.

Command and Control

0740. Widespread operations by many small groups, combined with limited visibility and thus the probability of degraded radio communications will impose severe problems of command and control.

0741. Each 'open' route may be allocated to one ambush party which will fall back on every ensuing ambush position by moving parallel to it. Alternatively two or more ambush parties may leap-frog each other on the same route. In either case, speed of movement between ambush positions

will be critical, necessitating a detailed knowledge of withdrawal routes off main rides and the capability to report progress. In a leap-frog withdrawal the operating mechanics are fundamentally more complex.

0742. Overall control of ambushes must be exerted centrally by company/combat team commanders to ensure delay is co-ordinated across all routes and to avoid the bypassing of individual ambushes, which could precipitate an enemy breakthrough to the main position. In conflict with this requirement is the critical timing of withdrawal by individual ambushes after contact; this decision can be taken only by the ambush commander on the spot. Consequently it may be necessary sometimes for the company/combat team commander to order ambushes back to positions they have vacated previously or to withdraw them before contact.

0743. In this environment effective and detailed command and control will be essential, but it will be exercised only if communication between company/combat team headquarters and all outposts (OPs, ambushes and platoon/section localities in the main position) is certain. Since woodland will militate against consistent radio communication and there may be insufficient sets for every group, it is improbable that communications will rest on this method alone. Communication systems will need to be duplicated. To that end the use of line, command APCs, if appropriate, to provide rebroadcast facilities, and runners will all need to be considered. A thorough communications reconnaissance and plan must be made during the preparatory phase.

Reconnaissance and Preparation

0744. ***General.*** The preparation of any defensive position requires detailed reconnaissance and much work in preparing the position. It will be seen in this concept that the defence of a wood requires even more work. The main position must be sited in the same way as for conventional defence and as much work is required. However, the siting and digging of the ambush positions and the preparation of obstacles on the blocked rides and roads within the wood must also be completed. In a wood where each section has several ambush sites to reconnoitre and prepare in addition to the main defensive position between 36 and 48 hours will be required.

0745. ***Reconnaissance.*** Commanders must reconnoitre all routes and selected ambush positions in their area. Although this will take time it is the only effective way of ensuring that all routes that may be possible to the enemy are either ambushed or blocked; also it will be most important to obtain a general mental picture of the layout of the forest with a view particularly to the defenders moving as fast as possible between ambush

positions. The platoon commander must prepare a sketch map of his area as these and air photographs will be used more than maps. This initial reconnaissance could well take several hours and must select:

a. The method of making selected rides impassable. The enemy must not be able to bypass the block except by going down another ride which is ambushed.

b. Ambush position which should be sited in defilade if possible. Obvious sites such as track junctions should be avoided.

c. The killing area of the ambush which must be such that a knocked out vehicle cannot be bypassed.

d. Good withdrawal routes for the ambush parties.

e. The main defensive position.

f. The OPs positions forward of the wood and their withdrawal routes.

g. The best methods for communications.

0746. ***Preparation.*** In order to avoid the much increased risk of air burst caused by woodland, preparation of ambush positions should include time to dig each with overhead protection. At the main position overhead protection must be provided. The list of tasks is given below, but the priority will vary according to the situation:

a. Reconnaissance.

b. Preparation of main position and forward OPs.

c. Blocking of routes.

d. Initial preparation of ambush positions.

e. Further improvement of obstacles by minelaying, wiring, etc.

f. Further digging of ambush positions and provisions of a 'fail safe' obstacle at each.

0747. ***Timings.*** Timings will depend on the type of ground, availability of resources, the tactical situation, whether work is possible by day and the manpower available. Possible timings are:

a. Preparation of main position (to include overhead protection and surface laying of protective minefields)	24 hrs
b. As above plus two ambush positions per section ..	36 hrs
c. Completion as above plus several ambush positions per section	48 hrs

Tanks

0748. Within woodland, tanks are unlikely to play a major role. However,

particular situations may sometimes permit the use of tank guns at worthwhile ranges, for example—down a long ride or over a wide clearing. Where this applies, tanks must always have close infantry protection.

0749. Otherwise, tanks may be used in a supporting role beyond the periphery of woodland. Tasks will be:

a. To prevent any bypassing attempt.

b. To engage the enemy advancing to break into the woodland.

c. To stop a possible enemy breakout from the woodland and attempts to outflank the defence.

ATGW

0750. The same considerations apply as with tanks.

Artillery

0751. During the initial phase, FOOs will usually be deployed forward of woodland where they can direct fire most effectively on to advancing enemy. Subsequently, when the extent of the enemy's advance forces them to withdraw, they may be able to take up one or more intermediate OPs before falling back finally to the main position.

0752. Visibility and communications permitting, there is value in FOOs remaining as far forward as possible within woodland so that they may direct harassing fire along rides and FPF to assist ambush parties in making a clean break. The advantages of this course need to be weighed against the chance of FOOs being isolated by encirclement or penetration, especially by dismounted enemy infantry.

0753. Once the main position is occupied for the final defensive phase, FOOs will normally be co-located with the company/combat team commander; here they may form a small FSCC, together with MFCs, to coordinate all fire requests.

Engineers/Assault Pioneers

0754. Engineer and assault pioneer advice will be vital in creating the major obstacles required. Physical assistance in the form of engineer plant and stores may well be essential in order to complete obstacles and digging in time. Nevertheless, rifle platoons must know how to fell trees using saws and explosives and how to lay both anti-tank and anti-personnel mines.

Minefields

0755. There may be little value in laying protective minefields forward

of the wood as they will not be covered by direct fire. Greater effect will be achieved by laying a mixed minefield inside the forward edges of the wood.

0756. There will be a requirement for mixed mining in the ambush positions. Anti-personnel mines will be used in likely dismounting areas while anti-tank mines nearer the ambush position will discourage enemy from following up hard.

0757. However, the main mining priority is at the main defensive position where the minefield will be laid in co-ordination with the anti-tank plan.

APCs

0758. Fighting in woods is unlikely to be the prerogative solely of non-mechanized infantry and when mechanized infantry are so deployed the decision how best to use APCs will need to be considered.

0759. Whether some or all APCs with turret mounted GPMG should be integrated into the defensive fire plan at the main position, and whether all or some APCs should be grouped in a ZULU muster, will be decisions which the local commander alone can make and in which he will be influenced by the particular circumstances.

0760. The decision whether to include APCs in the defensive plan will depend on the balance of the advantages and disadvantages in each situation. Some considerations will be:

a. *Communications.* In woodland, communications will tend to be tenuous, yet the need to maintain continuous radio communication, especially once ambush parties have made contact, may be an even higher priority than usual. This suggests that the benefit of using the more powerful mounted radio sets and the other communication facilities, at least of command vehicles, should not be discarded lightly.

b. *Casualties.* APC ambulances sited within combat teams' main defended localities could improve first aid treatment and speed the medical evacuation of casualties.

c. *Ammunition.* Section vehicles held securely and readily available within woodland and loaded with a proportion of first line ammunition, could ease the resupply of ambush parties.

d. *NBC.* During the preparatory phase of the defence, the close proximity of APCs would increase protection.

e. *Noise.* Sporadic starting of engines for whatever purposes, e.g., movement or battery charging combined with the difficulty of keeping engine revolutions at a constant pitch, is likely to prejudice concealment and undermine surprise.

f. *Extrication.* Should it become necessary to withdraw from the main defensive position, the extrication of APCs could present a major complication, especially if withdrawal is while in contact with the enemy.

Rear Edge of Woodland

0761. When the rear edge of woodland protrudes partially or wholly across a battle group's area of responsibility, the best method of defence may be to engage the enemy from lay back positions as he debouches. This assumes an area of terrain behind the wood which is suitable to defence and particularly to the deployment of tanks.

0762. The rear edge of woodland must be included in indirect fire planning and likely debouching areas could be appropriate tasks for GPMG (SF). It must also be kept under constant surveillance. UGS may profitably be sited along anticipated exit routes, and dismounted sections and MFCs as reconnaissance patrols or OPs will always be required.

Forward Edge of Woodland

0763. The concept of operations to be adopted in this event will depend significantly on the depth to which the battle group area of responsibility is wooded.

0764. Woodland confined to rear areas, which themselves are preceded by good defensive terrain, may possibly be ignored as far as the active defence is concerned. However, the closer woodland abuts company and platoon defended localities, the greater the danger of it attracting heavy enemy suppressive fire; consequently the preparation of alternative positions may sometimes be necessary, or some positions may need to be left unoccupied until the last minute.

0765. The nearer the forward edge of woodland approaches the forward edge of the area of responsibility, the more likely that one or another of the possible concepts described earlier in this section will need to be applied.

Administration and Morale

0766. ***Administration.*** In many ways administration may be simpler in a wood because concealed movement is easier. As in any defensive position a certain amount of stockpiling is required, especially as a number

of positions are to be occupied (main and ambush). OPs must be completely self-contained.

0767. ***Morale.*** Morale will be an especially important factor. Many woods are dark, damp and depressing places, even if offering some degree of safety. OPs will feel isolated and most of the remainder will be operating in small groups during the ambush phase of the action. Platoon commanders must ensure that they visit frequently before the action begins and that everyone is throughly briefed.

0768–0770. *Reserved.*

SECTION 58—ATTACK

0771. Offensive operations through thickly wooded country in which a platoon will participate are described in Section 62 of the Infantry Battalion 1975, Part 2 (Army Code No. 70740). The scope of this section is confined to small woods and isolated areas of natural cover, such as will be found in mixed terrain. The clearing of these areas will be the frequent task of a mechanized or non-mechanized platoon, for example:

a. To protect armour, when tanks have previously led through more open country.

b. To clear a planned hide or battle position before occupying it.

c. During counter infiltration operations.

0772. The level of enemy that may be anticipated in this context is:

a. A standing patrol.

b. A reconnaissance patrol lying up.

c. A patrol base.

d. A small enemy force which has been cut off.

e. Part of a larger enemy force which is attempting to infiltrate.

f. Crews of destroyed/damaged enemy tanks or APCs.

0773. Such opposition may well be dug in and very well concealed, or may be in hastily prepared positions. Its aim may be to remain concealed, or to defend itself aggressively. Especially in the latter case, its deployment throughout the wood/natural cover could range from single snipers to section ambushes/positions concealed at, under or above ground level. The possible presence of a tank or an APC cannot be discounted.

Principles

0774. Once the general position of the enemy is located, speed and thoroughness of searching are essential to destroy him, or prevent him from escaping.

0775. ***Speed.*** This is vital both in planning and in execution. A well rehearsed drill which requires the minimum of orders and reorganization of sections must be used to achieve it. This drill will include the preliminary action of covering all possible enemy lines of withdrawal.

0776. ***Thoroughness.*** The thickness of the wood or natural cover will dictate how close the men clearing it must be to ensure that they do not miss any enemy. Six metres between men will be the maximum in a thick wood. For many woods this means that the troops available are insufficient to clear it in one sweep. Then, some adaptation is necessary such as clearing it along its length, so that the frontage matches the troops available. It may even be necessary to clear it in more than one sweep, but this is undesirable. In this circumstance arrangements will have to be made to ensure that the enemy do not move from an uncleared to a cleared area of the wood.

0777. ***Direction.*** If the choice of direction is not dictated by the location of the enemy or the shape of the wood, it is easier to clear downhill and also to make the enemy retreat in the direction of his own lines or along his chosen withdrawal route.

0778. ***Killing Zone.*** Try to drive the enemy into a good killing zone outside the wood. This will be an open area where the GPMGs can be used to the best effect.

Organization of the Platoon

0779. The platoon will be organized into three groups:

a. *Stops.*

(1)	Commanders . .	. . Gun controllers.
(2)	Personnel . .	. . 1 and 2 Section gun groups with radios. LAW should be deployed if there is any likelihood of a tank/APC threat.

b. *Sweeps.*

(1)	Commander . .	. . Platoon commander.
(2)	Personnel . .	. . 1 and 2 Sections, less gun groups. Platoon HQ, less platoon sergeant and No. 1 light mortar.

c. *Assault (Follow-up) Group.*

(1) Commander .. .. Platoon sergeant.

(2) Personnel .. .. No. 3 Section carrying LAW (the GPMG may be used to provide an extra stop) and No. 1 light mortar.

0780. If the frontage requires more than two rifle groups, sweeps will have to be augmented at the expense of the assault group.

Stages

0781. The drill for clearing the wood can be broken down into six stages:

a. Planning and preparation.

b. Deployment of stops.

c. Gaining a lodgement.

d. Sweeping the wood.

e. Action on meeting enemy.

f. Reorganization.

Planning and Preparation

0782. The platoon commander must first complete a quick reconnaissance from a position where he can see the wood. In making his combat appreciation he should consider the following factors:

a. Strength and disposition of the enemy including tank/APC threat.

b. Likely enemy lines of withdrawal.

c. Shape of the wood and in which direction to clear it.

d. Killing zone.

e. Positions for stops.

f. Wind, if smoke is to be used.

0783. Whilst he is doing this, the platoon sergeant should be reorganizing the platoon as described in paragraph 0779 above.

Deployment of Stops

0784. The stops will move into concealed positions via the best covered approaches and using the fastest means available consistent with security. Providing all stops can be positioned quickly and more or less simultaneously, loss of surprise may not be critical. The stops should shoot anyone emerging from the wood before the success signal is given.

Gaining a Lodgement

0785. The sweeps deploy to a FUP under cover at the same time as the deployment of stops. If the enemy has an OP or is holding the edge of a wood, the sweeps will have to gain a lodgement by fire and manoeuvre from the FUP: the assault group should be positioned to give covering fire. Once a foothold has been gained in the edge of the wood, the sweeps must clear what is to be the base line for the sweep through the wood.

0786. The sweeps should spread out from the centre on either side of the platoon commander and in visual contact with the man on their inside flank. Each man must have at least one other covering him forward until the line is established. Once the sweeps are in position the assault group doubles forward and forms up in the centre rear with the commander close to the platoon commander and his group close behind him.

Sweeping the Wood

0787. When the order to advance is given, sweeps advance in extended line with men working in pairs, one covering the other forward. Movement should be from tree to tree or cover to cover. The leading man should search the ground in front of him carefully, paying particular attention to thick undergrowth; the man covering him should observe and listen intently looking up into the trees as well as forward and sideways. Men in the assault group should observe forwards and upwards, and also check backwards. It is important that all move as silently as possible, no less for the purpose of detecting the enemy as for control by the platoon and section commanders. Particular points to note are:

a. The pace must be that of the slowest pair, which will probably be the one moving through the thickest undergrowth.

b. If the sweeps have to halt, all should take up fire positions and observe and listen. The ground already cleared should be kept under observation by the assault group.

c. The sweeps on the two flanks must indicate progress to the stops by hand signal, taking care not to expose themselves outside the wood.

d. When the sweeps reach the far end of the wood they must not under any circumstances emerge from it until the success or all-clear signal is given to the stops.

e. The assault group should follow 10–15 metres behind the sweeps.

Action on Meeting Enemy

0788. Bearing in mind the wide variety of enemy options (paragraph

0773), nevertheless there are two constant considerations which will govern the correct action to be taken: these are range and control.

0789. The enemy may open fire or be detected at very close range, say up to 10 metres, and thus one pair or the whole sweep may be effectively engaged; or the enemy may be seen or may open fire at a greater range, say upwards of 25 metres dependent on the density of wood and undergrowth, effectively halting the further progress of the sweeps until his position has been cleared. In either event, the platoon commander must not permit the line of his sweeps to be disrupted and assaults on the enemy must be strictly limited. Otherwise the platoon will soon become unbalanced and thus unable to react to a developing situation; also some areas of the wood may not be cleared. Two simple examples of correct action to be taken on meeting the enemy are described below.

0790. If only one pair in the line of sweeps is effectively engaged at very close range they should rush the enemy, returning fire simultaneously and having dealt with him they must take cover on a line with his position, shout *"Clear"* and continue to observe. Meanwhile the remainder of the sweeps and the assault group not brought under effective fire should have taken cover immediately and have remained observing in their allotted arcs. On hearing *"Clear"*, the platoon commander will order the advance to be continued and the line of sweeps will pick up the pair who dealt with the enemy as it passes through.

0791. Alternatively the enemy may open fire at a range of about 30 metres. In this case the whole line of sweeps should take cover and those who can see the enemy should return fire as usual. The platoon commander must gather the assault group commander and together they should move to where they can see. The platoon commander will issue a short battle order such as: *"Enemy there (points), right flanking"*. The assault group will then mount a quick attack using fire and manoeuvre within itself and with additional covering fire from those of the sweeps who can see. On taking the position the assault group will reorganize on a line with it and at this stage will not pursue any enemy escaping from it. The commander will shout *"Clear"*, whereupon the platoon commander will order the sweeps to continue the advance through the assault group, which will then resume its former position in rear.

0792. These examples represent the extremes of possible enemy options. There are many other permutations which could be met, but in all the platoon commander must:

a. Resist the dislocation of his sweeps.

b. Limit each objective.

c. Employ the assault group against longer range enemy positions.

d. Ensure that constant observation is maintained.

0793. Other points to note are:

a. When advancing, the direction(s) in which sweeps and assault groups may fire must be controlled to minimize the chance of accident amongst own troops.

b. Grenades should be used only if they can be thrown accurately into a hole or hollow and nearby men are under cover. They can easily bounce back off trees. The simplest way to control their use is to allow section commanders only to throw them.

c. Wounded and prisoners should be made the responsibility of the assault group.

Reorganization

0794. When the sweeps reach the far end of the wood, it should be cleared and the success signal given. The platoon will reorganize at a pre-arranged RV as follows:

a. All the men in the wood move to the RV under the platoon commander, covered by the stops.

b. The stops then rejoin the platoon at the RV.

c. The platoon takes up an all round defensive position in the RV.

d. The platoon commander checks on casualties and on ammunition which will be redistributed if necessary.

e. A report will be sent to the combat team commander by radio.

APCs

0795. A mechanized platoon cannot clear a small wood or an area of natural cover whilst mounted. This task requires it to be dismounted and therefore the same drill described in paragraphs 0781–0794 will apply.

0796. In support of the dismounted platoon, APCs can be used to the following advantage:

a. During the platoon's initial deployment up to and around the wood, when speed is more important than surprise.

b. APCs manned by a driver and vehicle commander can be used as stops, thus releasing more men and possibly more GPMGs to the sweeps and assault group. However, the relative vulnerability of APCs deployed in this mode must be carefully weighed.

c. When it is necessary to gain a lodgement from the FUP, APC turret/vehicle mounted GPMGs can provide additional covering fire.

CHAPTER 8

ASSAULT CROSSING OF OBSTACLES

SECTION 59—GENERAL

Obstacles

0801. The crossing of major obstacles is normally planned at battalion level but the platoon and section commanders must know the various methods of crossing or breaching the following obstacles:

a. Rivers and streams. Patrols may also have to cross rivers and streams during patrol operations.

b. Wire.

c. Minefields.

0802. Obstacles will not always stop infantry on foot but they will slow them down and expose them to enemy fire.

0803. This chapter covers the assault crossing and breaching of obstacles at platoon level.

0804–0805. *Reserved.*

SECTION 60—CROSSING A WATER OBSTACLE

Watermanship

0806. Watermanship is the art of handling a boat, raft or pontoon. Considerable practice and training are required under varying conditions before a sufficiently good standard of watermanship will be achieved to enable water obstacles to be crossed successfully.

Safety Precautions

0807. Safety precautions are applicable to operations as well as to training. However, the operational situation may make it impossible to apply some safety measures that would be normal practice under training conditions. Operation orders should include details of precautions to be taken against loss of life and material. Detailed instructions on safety precautions to be followed when training on or over water are covered in AGAIs and/or DCIs. The main elements on which safety is based are:

a. The correct training of those taking part by instructors, qualified in the activity concerned, in the use of safety equipment and in individual and collective safety precautions.

b. The provision of a suitable safety organization properly trained and correctly equipped.

Movement of Boats

0808. The movement of vessels is affected amonst other things by:

a. The speed and direction of the current.

b. The strength and direction of the wind.

c. The power and effectiveness of the crew.

0809. The commander of the craft can control the effectiveness of the crew but he will have to exercise his judgement on the effects of current and wind.

Effect of the Current

0810. Figs 30 and 31 show the movement of a boat across a straight stretch of river. If the boat is steered from the start with the bow pointing continuously to the landing place at 'B' it will be swept downstream and the last part of the crossing will be against the current. The correct method is to cross with the bow of the boat pointing upstream of the landing place so that the boat's course is as shown in Fig 30.

0811. If it is essential to cross the river as quickly as possible and there is a choice of landing sites then the boat should be launched upstream of the landing place and taken across at right angles to the current as shown in Fig 31.

0812. It is more difficult to cross a fast flowing river at a bend. The current in such cases is usually greater near the bank on the outside of the bend and sometimes there may even be a reversal of the current near the bank on the inside of the bend. If crossing from the inside of the bend it may be best to gain ground by going upstream close to the shore and then crossing straight across to the other bank swinging the bow to face the current at the last moment to come alongside the bank (*see* Fig 32).

Effect of Wind

0813. The effect of wind is directly proportional to the side area of the craft and its load, exposed to the wind. The effect of the wind will vary continually.

Selecting Improvised Crossing Places

0814. The following points should be considered when selecting a crossing place for an improvised crossing, when boats are not available:

a. Poor swimmers must cross at the wider, and consequently shallower and slower flowing portions of the river.

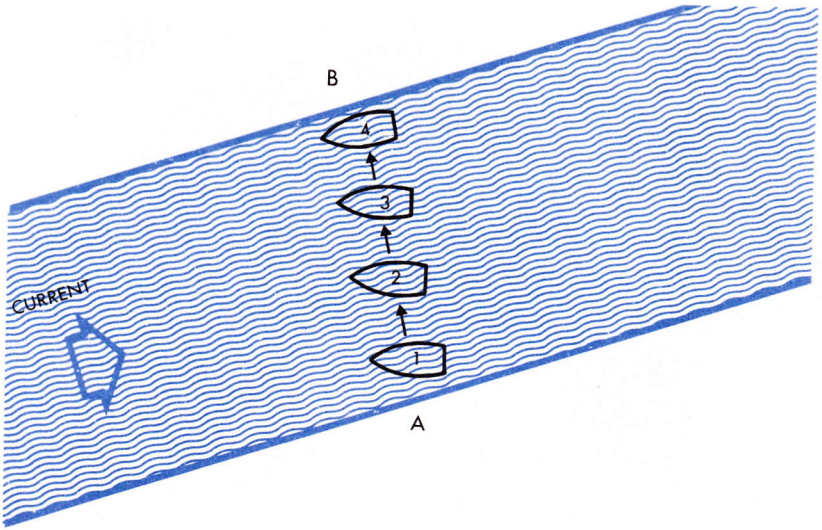


Fig 30.—River Crossing—Correct Course for Crossing at Right Angles

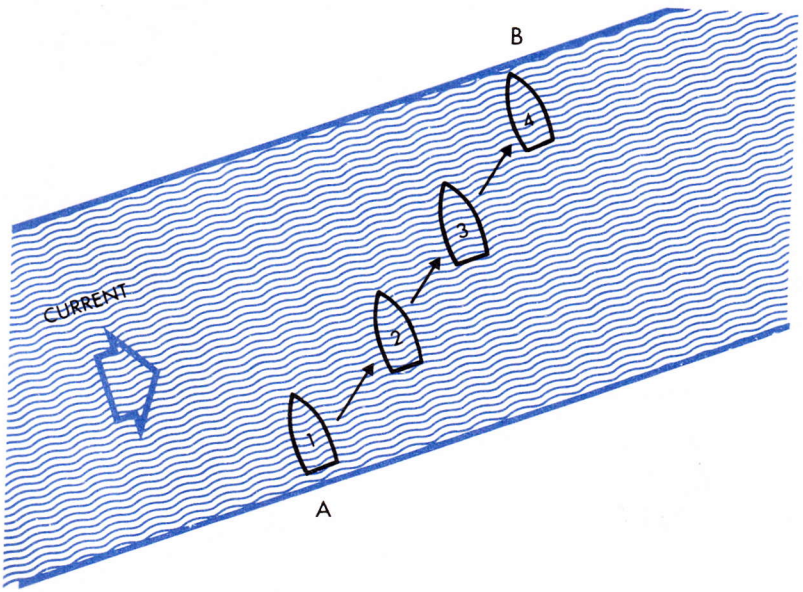


Fig 31.—River Crossing—Quickest Course

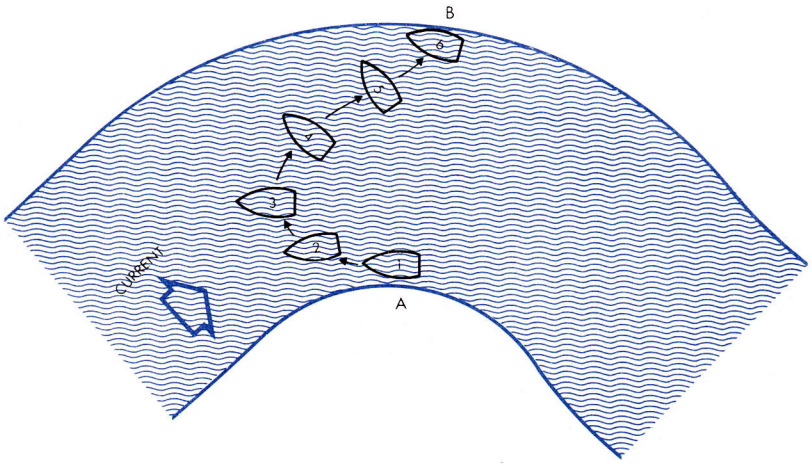


Fig 32.—River Crossing—Crossing from an Inside Bend

b. It is easier to cross from a point jutting out into the stream where the line of the current is towards the opposite bank.

c. High banks on the far shore may indicate deep water and make it difficult for men to leave the water. Deep water on the near shore is not such a problem.

d. Shallow water or sandbars in the centre of the stream provide an opportunity for reorganization and rest. They also enable men to regain their feet if swept away.

e. Crossings should be made at an angle of about 800 mils downstream.

f. In the event of an individual getting into difficulties in the water he should swim with the current easing himself out of it to either bank as appropriate. On no account should he try to swim against the current as he may quickly become exhausted and drown.

Methods of Crossing

0815. ***Unit Reconnaissance Boats.***

a. The AVON REDCREST is replacing the unit reconnaissance boat Mark 3/2. The latter, however, is likely to continue in service for some time. The AVON REDCREST is an inflatable boat, carrying two men and propelled by the use of oars. It has provision for the use of an outboard motor. A life-line is fixed round the outside at water level to which five men can cling in an emergency.

b. The reconnaissance boat Mark 3/2 is a rubber pneumatic boat, designed to carry three men, and normally propelled by the use of oars, but propulsion can be provided by the Johnson 7.5 kW outboard motor. Carrying handles are provided and a life-line fixed round the outside at water level.

0816. ***Assault Boat Mk 4.*** This is a light alloy boat 5.3 metres in length and 1.94 metres in beam, weighing 181 kg. For carriage in a truck the boats are inverted and 'nest', the lower boat within the upper. Stowed in this way eight boats can be carried on a 4 ton truck without its canopy. With a Johnson 40 hp/30 kW outboard motor its capacity is 11 armed men and a crew of two. Without an outboard motor a minimum of six men must paddle. An empty boat can be carried for a short distance by four men, but the normal method is by 10 men either at arms length or inverted on the shoulders. If the outboard motor is fitted then the boat can be carried at arms length by 12 men.

0817. ***Army Work Boat (DQ 17).*** The Army Work Boat (DQ 17) has been designed to provide the Army with a fast unsinkable patrol boat

for general support tasks. The craft is suitable for operation on inland lakes and waterways, sheltered estuaries and coastal waters. It can carry a coxswain and nine fully equipped personnel or a two-man crew and 772 kg of evenly distributed cargo. A lifting sling assembly with four links and hooks, specially designed for lifting the craft, is provided. The craft can be transported overland on a special trailer, which can be towed by a landrover.

0818. ***Wading.*** When wading the soldier must face upstream leaning into the current, whilst moving sideways across the stream. A stick about 1 .80 metres long will often help to maintain balance particularly in streams with a slippery or rocky bottom. If his footing is lost, it will help him to reach the bottom and get a hand hold until his feet can be placed again, rather than to attempt to regain a footing immediately whilst trying to stay above the surface.

0819. ***Hand Lines.*** When the current is particularly strong, or the water deep, making wading dangerous, toggle ropes may be linked together to provide a hand line. Rifle slings or rope may also be used. This will prevent soliders losing their footing, from being swept away, and also gives confidence to weak swimmers.

0820. ***Floats.*** Floats can be used either for assisting soldiers to cross a water obstacle, as a means of getting equipment across, and for keeping it dry or a combination of all three.

Swimming

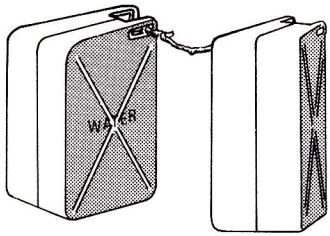
0821. During basic training it is very important that every soldier is taught to swim. It will give added confidence to the platoon when crossing a water obstacle and saves much time if an improvised crossing is being carried out.

Flotation Aids

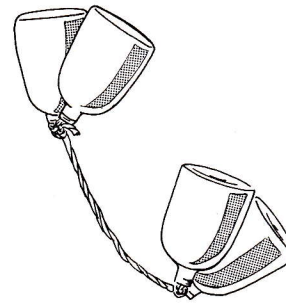
0822. There are many ways of improvising flotation aids. One purpose of improvisation is to enable a comparatively long water crossing to be made with the minimum of fatigue by a swimmer who, when he arrives at the far bank, will have dry clothing and equipment to put on. Another purpose is to support a weak swimmer.

0823. Fig 33 shows some of the methods of improvisation. The list is by no means exhaustive and many other local variations can be used by units. The art of improvisation is making use of materials that are readily available.

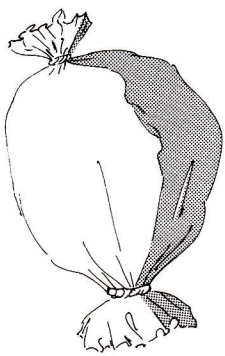
0824–0825. *Reserved.*



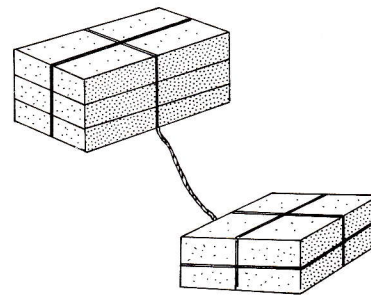
A. Two empty jerrycans or other containers tied together or used singly



B. Four empty waterbottles tied together (or an empty container water flexible 1 gallon)



C. A Poncho or sheet of waterproof material stuffed lightly with straw or foliage and tied to make it airtight.



D. Blocks of polystyrene from ammunition or stores packing tied together.
Empty metal ammunition containers can also be used (7·62 mm liners)

Fig 33.—Flotation Aids

SECTION 61—WIRE OBSTACLES

0826. Wire obstacles will normally be covered by fire and encountered in the last stages of an attack. Methods of making gaps in wire are:

a. *Artillery and Mortar Fire.* The effectiveness of artillery and mortar fire is limited. It will make gaps in the wire but cannot be expected to clear gaps sufficiently large for an infantry assault.

b. *The BANGALORE TORPEDO.* A rifle section using a BANGALORE TORPEDO can blow a gap in a wire obstacle 4 metres wide and 8–14 metres deep.

c. *Wire Cutters.* They are invaluable for use by patrols or to cut gaps in wire prior to a major breach. They are also effective in clearing the last strands of wire.

0827. ***Types of Obstacles.*** Details of British wire obstacles are given in Annex C. Wire obstacles used by the enemy will be similar in construction but may include barbed tape.

0828–0830. *Reserved.*

SECTION 62—MINEFIELDS

0831. Minefields may be encountered well forward or close to enemy defences and will be covered by fire. Small groups of nuisance mines may be encountered anywhere. These may not be marked in any way and may be booby trapped. The enemy may also lay unmarked mines on the surface as a form of hasty defence close to his position. For crossing large minefields a minefield breaching operation will be necessary. A small anti-tank minefield may be crossed on foot without a special breaching operation.

Breaching Capabilities

0832. ***BABY VIPER and BANGALORE TORPEDO.***

a. A rifle section can operate one BABY VIPER. Six men carry the boxes of hose, one man carries the rocket while the commander carries accessories and projector. The BABY VIPER will clear a lane 180 metres long and 0.30 metres wide.

b. A rifle section can blow a 4 metres wide gap, 15 metres deep in a wire obstacle with two BANGALORE TORPEDO sets.

c. Using two sections, one with a BABY VIPER and one with two BANGALORE TORPEDO sets, a platoon can open up one infantry assault lane, providing the minefield is not greater than 150 metres deep, and there is not more than 15 metres of wire obstacle in conjunction with the minefield. In addition, the platoon may have to provide radio communications for each lane. This leaves very little for local protection and guides, until part of the sections become free when the BABY VIPERS are in position.

d. If the minefield is much more than 150 metres deep, then two BABY VIPER teams will be needed in succession. In this case a rifle platoon can still open up one assault lane using the third section as the second BABY VIPER team.

0833. ***Breaching Equipment.*** Details of infantry breaching equipment are given in Annex I.

0834. ***Hand Breaching.***

a. Hand breaching operations will be organized and supervised by the assault pioneer WO2 and rehearsals arranged whenever possible.

b. The deployment of sections required to carry out a five metre breach of a minefield is shown in the table at Appendix 1 to Annex I.

c. The minefield breaching drill is shown diagramatically at Appendix 2 to Annex I.

CHAPTER 9

PATROLS, OPs AND SNIPERS

SECTION 63—AIMS OF PATROLLING

0901. The aims of patrolling are:

a. To obtain information.

b. To dominate the area between the opposing FEBAs and gaps between formations and units.

c. To destroy or disrupt enemy forces.

0902. In war, a commander cannot plan a successful operation without accurate and up to date information. Patrolling is one of the most reliable means of obtaining this.

0903. Dominating the area between the opposing FEBAs implies winning and keeping moral and physical ascendancy over it. This makes it easier and safer for more and more of our patrols to move in this area and to obtain further information. Conversely, it makes it harder and more dangerous for the enemy to do so. Gaps between units must be patrolled to prevent large bodies of enemy infiltrating or forming up for an attack unobserved.

0904. Patrolling is carried out by both sides by day and night in all phases of war. Successful patrolling calls for good planning, a high standard of individual training, good team work, efficient execution and initiative and determination on the part of the patrol commander. In fact it is the peak of infantry training. Also, of course, it boosts the unit's morale and conversely lowers the enemy's morale.

0905. Patrolling enables the defence to be conducted in an aggressive manner. In peacetime it is an excellent stimulant to training because it creates keen interest and can so easily be made realistic. The foundation of successful patrolling is thorough preparation.

0906–0910. *Reserved.*

SECTION 64—TYPES OF PATROL

Terminology

0911. Patrols have in the past been given a wide variety of names, such as 'ambush', 'listening', 'protection' or 'escort', but these merely describe

the tasks they have to undertake. All patrols fall into one of the following three types:

a. Reconnaissance patrols.

b. Standing patrols.

c. Fighting patrols.

Reconnaissance Patrols

0912. Reconnaissance patrols gain information by observation and operate by stealth. They avoid combat except for self protection or to take advantage of an unusual opportunity. Therefore reconnaissance patrols will be of the minimum strength needed to complete the task. A patrol leader and two men is quite normal for such a patrol.

0913. The tasks of reconnaissance patrols include:

a. Collecting topographical information on features, tracks and the state of the ground.

b. Locating enemy positions.

c. Obtaining details of enemy minefields, wire and the extent of enemy positions.

d. Investigating suspicious noises made by the enemy, enemy habits and patrol routes.

e. Checking our wire and/or minefields at first or last light.

f. Conducting radiac or chemical surveys of areas contaminated by fallout or chemical attack.

Standing Patrols

0914. Standing patrols give warning of enemy movement and prevent or disrupt infiltration. The minimum size of a standing patrol should be three or four men. The main tasks are to:

a. Watch and listen on likely enemy approaches.

b. Cover dead ground both in front of and between defended localities.

c. Cover minefields and obstacles which cannot be covered from the main position. This could include guarding open minefield lanes.

d. In mobile defence, prevent infiltration into unoccupied hides or battle positions.

0915. Standing patrols move into position using stealth and try to remain concealed until they are required to fight or withdraw. This is the main difference between a patrol and a 'screen' or covering force. They must

have radio in order to call down artillery, mortar or GPMG (SF) fire. Listening posts are tactical sentries sited on the perimeter of a defensive position to give early warning by listening at night rather than seeing by day. With modern surveillance devices there should be no need for listening posts, but of course sentries must still use their ears as well as their eyes. Listening posts are not considered further in this chapter.

Fighting Patrols

0916. Fighting patrols are organized for a particular task with sufficient strength and armament to fight. The tasks on which fighting patrols may be employed include:

- **a.** Denying enemy patrols freedom of action.
- **b.** Interfering with enemy working parties.
- **c.** Distracting enemy attention as part of a deception plan.
- **d.** Carrying out raids.
- **e.** Capturing prisoners, or equipment, for identification purposes.
- **f.** Tank ambushing (*see* Section 80).
- **g.** Laying ambushes.
- **h.** Protecting reconnaissance and working parties of other arms.

0917. Fighting patrols are rarely less than one officer and eight other ranks. This is related to the number which can be effectively controlled by one man at night, the size of enemy patrols and the mission given to the patrol. If a fighting patrol has to set up a patrol harbour for one or more reconnaissance patrols it will naturally be larger than this.

0918–0920. *Reserved.*

SECTION 65—CO-ORDINATING AND PLANNING

Responsibilities

0921. Within the battle group, the combat team commander is generally responsible for the briefing and debriefing of patrols, but the intelligence officer or other officer in battle group HQ responsible for the co-ordination of patrolling will usually provide information about the enemy, our troops, ground and in particular any information acquired by previous patrols. The commanding officer may brief the patrol himself, if the task is of special importance.

0922. It is usual for the combat team commander to control all local patrols operating on his front and special patrols outside the radio range of battle group HQ. He should therefore brief and debrief such patrols.

Mission

0923. The mission of each patrol ordered out must be clearly defined and understood.

Time for Planning

0924. Patrols should be planned sufficiently far ahead to allow a full briefing of the patrol commander. Sufficient time must also be allowed for the patrol commander himself to study maps, air photographs and intelligence reports, and make a reconnaissance. The time required for this will depend on the task and whether the members of the patrol are familiar with the ground. Four hours of daylight should be the minimum for a fighting patrol. A reconnaissance patrol on the other hand may have to be sent out at short notice, but this too, if it is to be of value to the commander, must be carefully briefed and have access to all relevant information.

Sequence of Preparation

0925. A suggested sequence of action might be:

a. Warning order issued by battalion HQ.

b. Combat team commander, or possibly the commanding officer and the intelligence officer, briefs the patrol commander and standby patrol commander if one is detailed.

c. Selection of OPs for the reconnaissance from the map.

d. Warning order by the patrol commander, detailing troops concerned, time and place of RV and any special administrative arrangements.

e. Reconnaissance from OPs.

f. Appreciation and plan.

g. Preparation of orders.

h. Preparation of model if required.

i. Patrol commander meets the patrol and points out ground from OP.

j. Orders issued from model or map.

k. Rehearsals

l. Preparation and inspection of arms, equipment and radio, including checking and firing of weapons.

m. Rest and meals.

n. Night rehearsal.

o. Final check of arms and equipment.

p. Patrol action.
q. Patrol commander debriefs patrol.
r. Patrol commander's interrogation and patrol report made out.
s. Hot drink or meal.

0926. The patrol commander should check the administrative arrangements for the reception of his patrol when it returns. Shelter, dry clothing, a meal and a hot drink should be available whatever the time. This gives all members confidence in the interest taken in their welfare. If possible, arrangements should also be made to enable them to get a few hour's undisturbed sleep beforehand.

0927. The interrogation of the patrol commander by the commanding officer/combat team commander and the compilation of the patrol report must be done as soon as the patrol returns before a meal, sleep or anything else. The information must be got to the operational commander fresh and undimmed by rest, refreshment, etc.

0928–0930. *Reserved.*

SECTION 66—RECONNAISSANCE

Briefing and Reconnaissance

0931. Before the patrol commander carries out his reconnaissance the briefing officer should ensure that he has detailed information. This includes:

a. The mission of the patrol.
b. All available information about the enemy.
c. Information about friendly forces, such as disposition of forward troops, minefield gaps, lanes in wire, DF and tripflares, details of other patrols going out, stand to and stand down, etc.
d. Time out and time in (a time restriction should be enforced only when necessary).
e. Any limitations affecting the choice of route, particularly through our own wire, minefields, DF areas and areas known to be covered by enemy surveillance.
f. Fire support, if any.
g. Action to be taken on meeting enemy.
h. Any special subject on which information is required.
i. Any special administrative arrangements.
j. Password and any special recognition or other signals.

0932. The patrol commander must:

a. Check that he has been provided with all the information he can obtain such as maps, air photographs, intelligence reports and reports of previous patrols.

b. Plan and carry out a detailed reconnaissance. If time permits this might mean completing a reconnaissance patrol the night before taking out a fighting patrol.

c. Study the ground with the following in mind:

(1) Route.
(2) Obstacles.
(3) Landmarks.
(4) Enemy OPs, listening posts and surveillance devices.
(5) Dead ground and covered approaches.
(6) Places where ambushes may be met or laid.
(7) Enemy positions, DF areas and fixed lines.
(8) Effect of the moon or illuminants.

d. Check very carefully distances, timings and compass bearings of bounds or legs on the routes out and in.

e. Keep his plan as simple as possible, particularly if the patrol is to be done at night.

f. Mark his selected route on the Operations Map at company (or battalion) HQ so that duty officers can refer to it when co-ordinating fire support. This also simplifies control since the patrol commander, when asked his location, can reply *"350 metres along Leg 2"*, etc., thereby obviating the need for grid references and codes, which might necessitate the use of a torch.

0933–0935. *Reserved.*

SECTION 67—PATROL ORDERS AND REHEARSALS

Orders

0936. Particular care must be taken over the preparation of patrol orders:

a. The contents of the orders and the manner of their delivery will contribute to the success of a patrol. They will take time to give out since they will be very detailed. Some time can be saved, however, if certain actions are mentioned in outline only and practised in detail during rehearsals.

b. Patrol orders must always be given to the whole patrol. They must be given slowly and by stages, and the detail must be given in the order in which it will occur during the course of the patrol.

c. Patrol members may ask questions at the end of each stage.

d. After the orders are given the commander must check that every member of the patrol knows everyone's task thoroughly.

0937. The headings for patrol orders are given in the Infantry Aide Memoire Part 1, General (Army Code No. 71153). They are a comprehensive guide but should not be followed slavishly. Nevertheless, as stated above, orders will be very detailed.

Rehearsals

0938. Time must be set aside for practice:

a. All phases of reconnaissance and fighting patrols ought to be thoroughly rehearsed. If there is insufficient time they must at least be discussed in detail. Action on the objective must always be rehearsed, for all types of patrol.

b. A daylight rehearsal should be held. During this the patrol commander will supervise and criticize all the actions of the patrol, ensuring that correct actions are carried out by stopping the rehearsal and correcting faults. The rehearsal should cover the following:

(1) Order of march and individual positions in all formations to be used.

(2) Method of changing formations and directions.

(3) Obstacle crossing.

(4) Action on meeting enemy en route.

(5) Action on the objective (fighting patrols only).

(6) Signals.

(7) Action at halts/RVs.

(8) Action on being illuminated.

(9) Casualty evacuation and prisoner escort.

c. A night rehearsal should also be held. It will be 'full dress' and will not be used as a practice in the same way as in daylight, since the patrol commander will take his proper place in this rehearsal.

0939–0940. *Reserved.*

SECTION 68—WEAPONS AND EQUIPMENT

Weapons

0941. Fighting patrols must be able to produce the maximum fire quickly. Self-loading weapons and grenades will be the principal weapons. GPMGs, though rather heavy and cumbersome, should be used if possible, provided that carrying them does not hinder the patrol. On some occasions, however, a patrol may be able to dispense with SMGs and GPMGs and rely on rifles alone. Weapons should be loaded with actions cocked and safety catches applied. Bayonets should be taken but not fixed unless the need arises, e.g., in the final RV before an attack. Both HE and smoke grenades should be taken. Grenade pins must be checked to ensure that they are readily removable but safe. GPMG ammunition (30–50 rounds) should be fed into the feed plate and may be carried in a pouch (e.g., a 44 pattern water bottle pouch) hanging from the feed plate. Spare rifle and SMG magazines can be taped end to end to speed reloading but there is the danger that dirt will get in the open end and cause a stoppage at a vital moment.

Equipment

0942. Equipment worn will depend on the patrol's task. It must be properly fitted, and nothing must rattle. In Europe CEFO must be worn, and the NBC suit and respirator either worn or carried. In other theatres the very minimum should be carried.

Clothing

0943. Clothing will depend on the climate and weather, but should be comfortable, protect the wearer and enable him to move silently without tiring him. Trousers and loose sleeves may be taped to avoid rustle. For radiac and chemical survey full NBC protective clothing and equipment will be worn. In general the following should be avoided:

a. Smooth surfaces likely to shine in moonlight or under flares.

b. Colour contrasts.

c. Stiff clothing which rustles during movement.

d. Wetproof smocks and trousers, which rustle noisily.

Footwear

0944. Footwear should be soft but must protect the feet. The normal issue boot is perfectly adequate for quiet movement. PT shoes do not give sufficient support or protection to the ankles and feet on hard, rough ground and will not last long if the wearer is captured.

Special Equipment

0945. Patrol commanders should carry:

a. Thick writing paper and soft black pencil, or perspex sheet and chinagraph pencil.

b. Compass with luminous dial.

c. Watch with luminous face, but with the watch face obscured.

d. IWS to aid navigation.

e. Binoculars. (They improve vision at night).

f. Torch.

g. Morhpia, in case anyone is wounded.

0946. The patrol commander should consider carrying the following in the patrol:

a. *Stretcher.* A stretcher can be improvised from jackets and spare rifle slings.

b. *Surveillance Equipment Including IWS.* Weight may preclude an IWS being carried on every weapon. IRIS or TOBIAS may be valuable at a patrol base.

c. *Rations.* A personal survival pack or, if unavailable, chocolate and sweets should be taken from the issue ration pack. There should, in an emergency, be sufficient for a few days.

0947–0950. *Reserved.*

SECTION 69—CONDUCT OF PATROLS

Final Inspection

0951. Before setting out on patrol, the commander must carry out a final inspection to ensure that his men are properly armed and equipped, and that their arms and equipment do not shine or rattle. No one must carry anything that might give away valuable information if it should fall into enemy hands. Men must be suitably camouflaged with their hands, neck and faces darkened.

Fieldcraft

0952. The patol should see or hear the enemy before it is itself seen or heard. This demands great patience, silent movement and good observation. Frequent listening halts are essential. The patrol should lie down, to take advantage of the skyline, and should observe carefully in all direc-

tions. The commander should use his eyes or IWS to scan the ground. The patrol must also keep perfectly still and listen intently. At night, the ears reveal more than the eyes. The patrol should not move until certain that there is no one else nearby. These halts are made frequently and take up a lot of time but they are essential to the success of the patrol. Between halts, the patrol should move at the best possible speed, but at all times with reasonable caution and as silently as possible.

Formations

0953. The formation adopted depends on the following factors:

a. Control.
b. Ground.
c. Protection.
d. Size.
e. Concealment.

0954. Formations should be kept as simple as possible. Useful formations are file, single file and diamond. The distance between individuals will be governed by the visibility. The drills and formations used by chemical survey teams are described in Annex J.

0955. If the patrol has a signaller he should be close to the patrol commander. He should keep his headset on when the set is switched on but only wear the headphones over one ear, except under particularly difficult conditions. This will prevent him becoming deaf to the noise he himself makes. He may stay on listening watch or may open at pre-arranged times in order to report progress. He must always switch on the moment contact is made. Whisper facilities should always be used and the volume turned as low as possible. Because of the nature of his work, it is desirable that a man be detailed specifically to protect him.

Routes and RV Drill

0956. Careful consideration needs to be given to routes and RV drills.

a. The routes out and in should be different. They should be broken down into legs, each having a magnetic bearing and measured distance. Legs should be defined to the nearest 50 paces and should finish at or near a feature easily recognizable at night, though not too prominent. The entire patrol must know the legs. Too many legs will complicate the plan. They should not be more than 1000 metres long. Bearings and distances can be written in chinagraph on semi-opaque plastic, such as is found in ammunition packing, and read by placing the plastic over the luminous compass face.

b. At the end of each leg there will be a pre-arranged RV. There will also be an RV close to the objective. On the outward move should the patrol be dispersed it will reorganize at the last RV passed. On the return move it will reorganize at the next RV due to be reached. At each RV on the outward and return routes the patrol commander must up-date all members of the patrol on the location of the next RV to be used. Rarely will experience and standard of training permit these drills to be omitted.

c. In his orders the patrol commander must say how long he will wait in any RV before moving on again.

0957. By night, except perhaps in bright moonlight, the route should avoid prominent cover such as corners and edges of woods and obvious approaches such as tracks, hedges and deep defiles, as these are likely places for enemy ambushes or standing patrols, or for surveillance devices to be located. When moving along sloping ground, the patrol should move round the slope keeping fairly well up but below the crest. Moving along high ground increases the risk of being seen against the skyline. When crossing a ridge, the patrol should crawl and try to make use of any cover available.

0958. By day, concealment is all important. Routes should be chosen to take advantage of all possible cover.

Night Navigation

0959. It is essential that a patrol should be able to find its way accurately. This can be difficult on a really dark night or in fog. The best aid to keeping direction at night is the compass. Careful study of maps and air photographs will help but the surest way of reaching the objective is to march on chosen bearings, counting the paces taken on each leg. This method of marching by legs is described in paragraph 0956. Features and landmarks help in checking positions. Much practice is required to reach a high standard in the use of the compass at night. Even with the use of an IWS this form of navigation is still necessary as a double check. Other aids which are sometimes available are the stars, artillery fire, mortar fire, tracer and various other illuminants.

Obstacles

0960. All obstacles, whether natural or artificial, must first be examined by the patrol commander. The crossing of obstacles by the patrol should be done as a drill, previously rehearsed. To avoid confusion, it is best to keep the same pre-arranged order for crossing all obstacles. All movement

through or across an obstacle must be carried out carefully and not rushed, as the patrol will be unavoidably spread out and vulnerable. A patrol should never be in a position where, if surprised by the enemy, it cannot return fire.

0961. ***Water Obstacles.*** Sometimes it is necessary for patrols to cross or make a reconnaissance of water obstacles. It may be possible to wade or swim across but more often a boat, which will be difficult to carry, or some improvised means of crossing, will be needed. Whatever arrangements are made, they must be thoroughly rehearsed in the dark. An operation of this kind calls for particular care. One small mistake may prejudice success.

0962. ***Wire.*** If it is necessary to cut a small gap through wire it should be done by two, or preferably three, men. Two, with wiring gloves or sacking, hold the strand to be cut either side of the third man who does the cutting. This allows tensioned wire to be released slowly, reducing the risk of noise. With loose wire it is usually necessary to cut out completely half a metre to metre lengths, to avoid snagging when the patrol crawls through. In a small patrol one man should hold the wire and a second cut it.

Approach to the Objective

0963. On approaching the objective, movement will be slower and halts more frequent. Any unnecessary noise at this stage will betray the patrol.

Action on the Objective

0964. It is difficult to plan action on the objective in detail, especially if it cannot be seen clearly from OPs. Often only an outline plan can be prepared. A reconnaissance patrol will probably only be required to observe, but a fighting patrol will on most occasions have to fight to achieve its aim. So when arriving near the objective, the patrol commander should quickly:

a. Search the area, especially the RV, for any unexpected enemy.

b. Make a brief reconnaissance to enable him to plan how to carry out the patrol's task.

c. Tell the patrol how the task is to be done. The plan must be simple, particularly if part of the patrol is to be ready to support the rest with fire.

Final RV

0965. There must always be an RV near the objective to which the patrol goes once there has been contact with the enemy. This RV must be easy to find but must not be too obvious, nor on an obvious line of withdrawal. This is the time when the patrol could be ambushed. The RV must be pointed out to all members of the patrol on the approach to the objective so that they can recognize it and the way to it when they are ordered to withdraw.

Action on Lights

0966. When a flare is fired, there is usually time to fall flat before the light takes full effect, and this should be done whenever possible. When caught by light, however, it is usually best to freeze. It is movement which is most likely to give the patrol away. One eye should be closed to avoid night blindness after the flare goes out, and the other used to observe.

Action on Setting Off a Trip Flare

0967. Trip flares are easy to conceal, are easily set off, light at once and last for some time. The flare also gives off smoke which may silhouette the patrol. Trip flares are sited to give early warning to the enemy of anyone approaching his position and they will usually be covered by fire. To help overcome this danger, the patrol commander or his scouts are advised to carry with them a light stick or wire to feel for trip wires and so locate them without setting off flares. If the patrol commander or scout can find the flare itself, he may be able to disarm it, but the best course is to mark the wire and flare with white tape and try to go round it. If the patrol should set off a trip flare, it must move away into shadows or cover as fast as possible, and thence to a pre-selected RV. On no account should it go to ground in the area lit by the flare.

Splitting a Patrol

0968. Splitting a patrol should normally be avoided; but it may be necessary in the case of large patrols when only a few men can be used in the final stages. When a patrol is split, there is a danger of the two parties clashing or losing each other. Also, if one party is engaged by the enemy, it may be difficult to reunite the patrol. So only split as a last resort.

Action if Surprised

0969. Action if the patrol is surprised or ambushed must be simple. It must be planned and rehearsed before the patrol sets out. The action will depend on the type of patrol, the strength of the enemy and the ground on which he is encountered. A patrol should not be given more than two

alternatives. The patrol commander must have a clear means of indicating which action is to be taken. Possible courses of action are:

a. An immediate assault on the enemy using weapons.

b. The patrol commander throws a smoke grenade and the patrol runs a pre-arranged distance or follows the commander in the direction he shouts.

c. To get down, fire weapons and throw grenades until the commander signals on his whistle, then runs as in sub-paragraph **b.** above.

Supporting Fire

0970. Supporting fire must always be pre-arranged and called for when necessary over the radio. Possible fire tasks in support of a patrol include:

a. Neutralizing the enemy or his surveillance devices if accurately located.

b. Distracting the enemy's attention whilst a patrol crosses an obstacle or approaches the objective.

c. Support on the objective.

d. Illumination.

Casualties

0971. All casualties must be brought back, not only for reasons of morale, but also to deny information to the enemy. Wounded must be attended to and made comfortable as soon as possible. A man wounded on the way to the objective may have to be left to be collected on the way back. It may be possible to summon a standby patrol by radio to pick him up in which case he should be left by an easily identified feature. When men are wounded on the way back, the problem is not so great. Unless a man is badly wounded, it is usually possible for him to be carried between two men, sitting on a rifle. If he is badly wounded, a stretcher must be improvised with rifle slings, wood or other available material.

0972. A plan must be made for substitution within the patrol of key members such as the patrol commander, NCOs and the signaller, in the event of them becoming casualties.

Prisoners

0973. If a fighting patrol takes a prisoner, whether that is its task or not, he must be brought back alive as prisoners are a valuable source of information. If the patrol's task is not ended, it may not be practicable to keep the prisoner with the patrol as he may handicap its movement or make a noise which betrays it. He must be put under close guard, gagged

and then either taken back or left to be collected later or even picked up by a standby patrol detailed to follow up for this purpose.

0974–0975. *Reserved.*

SECTION 70—PATROL HARBOUR

General

0976. A patrol harbour is a position established when a patrol halts for an extended period for the following reasons:

a. To avoid detection.

b. To lie up whilst a detailed reconnaissance of the objective is being carried out and for the formation of a final plan and issue of orders.

c. To form a base from which an operation can be conducted, e.g., attack, ambush, reconnaissance, or setting up OPs.

d. To provide an RV after infiltration into the enemy area by small parties.

e. To maintain weapons and equipment, and prepare food after long periods of movement or close contact.

Selection

0977. The selection of a harbour area can be done either from a map, by aerial reconnaissance, or on the spot. The area must be confirmed by reconnaissance and secured before occupation. In selecting an area the following points should be considered:

a. *Mission.* The harbour must be located so that it best enables the patrol to accomplish its task.

b. *Location.* Choose an area:

(1) Which can be easily defended.

(2) Where there is dense vegetation preferably bushy trees.

(3) Away from human habitation.

(4) Near a source of water.

(5) With good routes in and out.

(6) Where communications are good.

c. *Avoid.*

(1) An obvious position.

(2) A known or even suspected enemy, or ex-enemy, position.

(3) Ridge lines or crests, except as necessary for adequate communications.

(4) Roads, tracks, etc.

(5) Wet areas, steep slopes and small valleys.

Occupation

0978. For a swift and efficient occupation of a patrol harbour it is essential there is a well understood drill. A suggested drill is as follows:

a. The patrol halts at least 200 metres from the selected area and takes up all round defence.

b. The patrol commander and party (usually includes section commanders) go forward and reconnoitre.

c. When satisfied two men are sent back to bring forward the patrol.

d. The patrol is led to the patrol commander in single file.

e. The patrol commander visualizes the base as a clock face and positions himself in the centre.

f. As the sections arrive they are met by their section commanders and taken to their positions as follows: (*see* Fig 34).

(1)	First section	10 o'clock to 2 o'clock
(2)	Second section	6 o'clock to 10 o'clock
(3)	Third section	2 o'clock to 6 o'clock
(4)	Platoon HQ	Around patrol commander.

g. When in position all section commanders should be able to see the patrol commander and also their gun and rifle groups.

h. The patrol commander checks the perimeter moving anti-clockwise, each section commander meeting him at his gun group and any necessary adjustments are made.

i. On a signal from the patrol commander clearing patrols are sent out by each section to search the immediate area. These patrols usually consist of the section commander and one man from each group. They move out through the left of their rifle group and re-enter through their gun position. The distance the patrol needs to clear out to will depend on the range of noise and smell, about 300 metres (*see* Fig 35).

j. Work on the harbour starts as soon as all the clearing patrols have returned and sentries have been posted. Likely tasks are:

(1) Digging defences, obstacles, refuse pits, latrines.

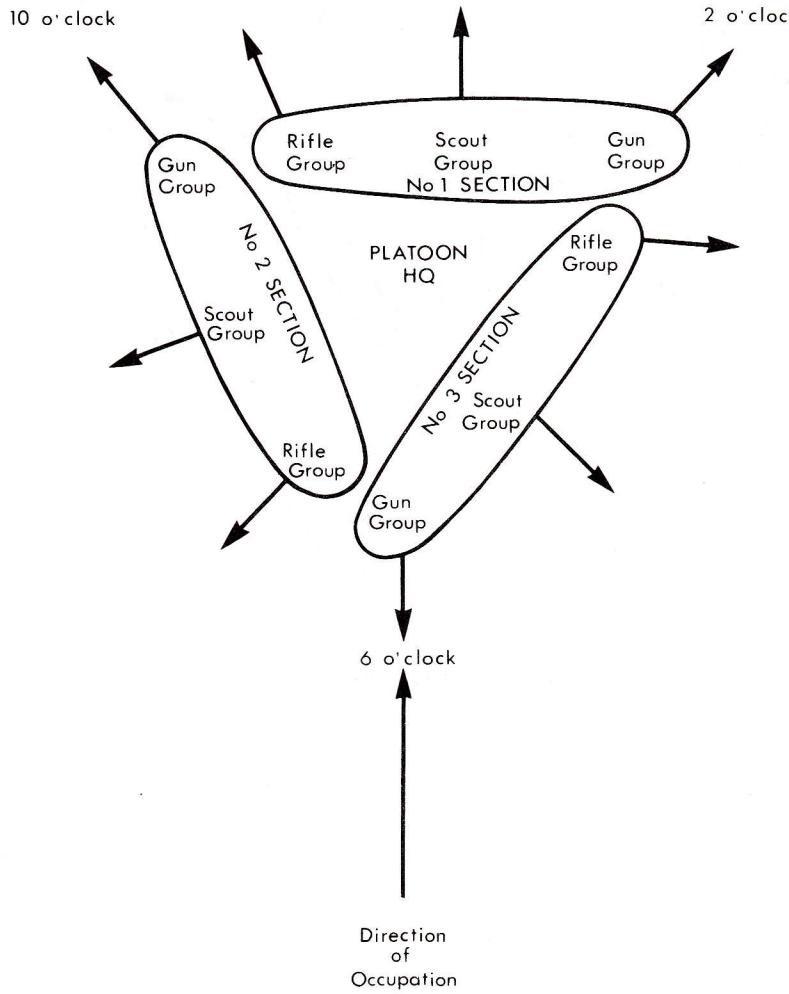


Fig 34.—Patrol Harbour

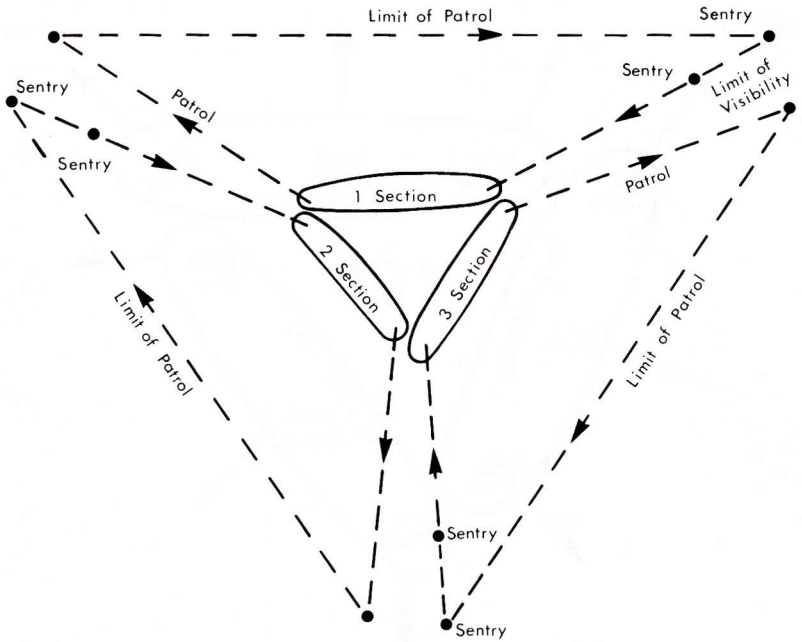


Fig 35.—Clearing Patrols

(2) Camouflage, fields of fire, DZ/LP, perimeter paths, trip flares or other warning devices.

(3) Erection of shelters.

(4) Administration.

Routine

0979. The following points must be properly organized:

a. Alarm positions and system.

b. Sentry roster system.

c. Resupply.

d. Weapon cleaning.

e. Water patrols.

f. Sleeping.

g. Feeding.

h. Kit not in use packed ready for a quick move.

i. Track discipline and movement.

Security

0980. The patrol commander must ensure:

a. Sentries and listening posts are established to cover avenues of approach into the area. By day, and during setting up, sentries should be sited beyond the noise and smell range.

b. Good communications with posts and sentries to ensure early warning.

c. Sentries are alert at all times.

d. The harbour is capable of all round defence.

e. Camouflage, noise, light and smell discipline is enforced.

0981–0984. *Reserved.*

SECTION 71—OBSERVATION POSTS

General

0985. Every commander wants the maximum possible information about the strengths, movements, positions and intentions of the enemy. In defence, and in certain IS situations, a very effective way of obtaining information is by the use of OPs.

0986. Under present organizations, OP work is split between the divisional reconnaissance regiment and infantry battalions. Mobile OPs are provided by the close reconnaissance troop attached to the battle group. Static OPs are provided by companies/combat teams.

Selection

0987. The following factors must be considered when choosing a site:

a. *Observation.* It must give observation over the area given in orders.

b. *Arc and Field of View.* It should have as wide an arc as possible, and should have as little dead ground as possible.

c. *Approach and Exit.* These should both be covered. This is especially important in the case of an OP operating from a firm base.

d. *Cover.* Cover from fire and view are necessary. Digging in will almost certainly be necessary. The position chosen should not be an obvious OP site: the enemy is not a fool.

e. *Communications.* Radio must be able to work from the chosen position. Line should be laid if this is practicable. Minimum radio should be used, to avoid enemy DF.

f. *Alternatives.* These should be selected in case a move becomes necessary.

Battle Procedure

0988. ***General.*** There are six phases in the procedure:

a. Planning and preparation.

b. Move to the final RV.

c. Reconnaissance.

d. Establishing the OP.

e. The operation.

f. Extraction.

0989. ***Planning and Preparation.*** This is organized as follows:

a. Warning order is issued. Men are selected, kit is assembled and packed.

b. The OP commander receives orders.

c. The OP commander makes his appreciation and plan. Quite often the OP will have to be selected off the map.

d. The OP commander prepares his orders. These will closely follow patrol orders, but the following will also need mentioning:

(1) Task area, arc, auxiliary arcs.

(2) Area for OP position.
(3) Timings to be in position, in operation and withdrawn.
(4) Special equipment, e.g., NOD, TOBIAS.
(5) Administration.
(6) OP routine.
(7) Communications.

e. The OP commander issues orders.

f. Rehearsals and preparation.

g. In certain circumstances it may be necessary to send out a party to enable the OP to set itself up in security. The actions which are explained in the remainder of this section assume that such a party is provided.

0990. ***Move to the Final RV.*** The whole party must move as a properly constituted patrol. If possible the RV should be reached about half an hour before last night. It must be organized for defence on arrival.

0991. ***Reconnaissance.*** The OP commander, a signaller and two men move to the chosen OP area where they do the following:

a. Clear the immediate area and check for the presence of enemy in the general area.

b. Place two sentries in position.

c. Select exact OP position.

d. Communications check to control from OP position.

e. Commander and signaller return to the main body, leaving the two sentries in position.

f. Final briefing by OP commander.

g. Main body moves to OP position just after last light.

0992. ***Occupation.***

a. On arrival the sentries are checked and the ground cleared again.

b. The party is orientated.

c. The protection party deploys.

d. Control is informed of the exact grid reference.

e. Digging starts. Range cards and panoramas are begun.

f. The OP is completed and checked by the commander.

g. The OP is manned and reports it is operational. Panoramas and range cards are completed, enemy positions are identified and recorded.

0993. ***Operation.*** Routine work is started as soon as occupation is complete.

a. *Observation Technique.*

(1) Split the arc of observation into foreground, middle distance and background. Scan each of these areas carefully with binoculars from side to side, resting the eyes frequently.

(2) The basic rules of observation should be applied whilst scanning systematically. Search dark areas with particular care. Look for mistakes in enemy camouflage. Regularity, movement and changes in the natural scene all point to the enemy.

(3) Observation and reporting of nuclear strikes includes additional responsibilities. These are described in Annex K.

b. *Duties Within the OP.*

(1) Concentrated observation is tiring work, so limit it to a maximum of 30 minutes at a stretch.

(2) A tour of duty should be for two men on watch for one hour at a time, alternating sentry duties every 20 minutes.

(3) The sentry is required to watch the local area of the OP.

(4) Routine radio reports should be sent once or twice an hour at pre-arranged times so that the signaller can be available for other duties.

(5) Special reports can be sent back at any time.

c. *Administrative Arrangements.* If the OP is manned for a long period the arrangements will include:

(1) *Food and Water.* Pre-heated food may be supplied, or smokeless fuels may be used if cooking smells are acceptable. The security of the OP must not be compromised for the sake of eating and drinking hot food.

(2) *Hygiene.* Sanitation arrangements must be made, in the hide itself if necessary.

(3) *Clothing and Bedding.* Parkas may be taken. Only enough sleeping bags to operate a 'hot bunk' system need be carried.

(4) *Communications.* Spare batteries and AF gear must be taken.

(5) *Kit and Equipment.* Kit will be carried to the OP position mostly in large packs. Anything not in use must be packed away, and the OP party must always be able to move instantly.

Loose items in use by the observer/sentry should be placed on a groundsheet/poncho, ready to be bundled up and carried off.

(6) *NBC Clothing and Equipment.* Must be taken where appropriate.

(7) *Digging Tools.* Will be necessary.

d. *Relief Procedure.* Two men should be awake and in the OP itself at any one time. Relief should be organized so that, as with double sentries, one observer is always fully 'read in' to the situation while a relief is taking place.

0994. ***The Extraction.*** The drill for this is as follows:

a. An RV at which to meet an escort party is chosen.

b. The escort secure this RV at last light.

c. The OP party moves out at last light.

d. The OP party joins the escort at the RV.

e. The whole party returns to the FEBA.

Selection for OP Work

0995. All soldiers will be liable for OP work. Ideally, however, the sort of man chosen should be:

a. Intelligent and with common sense.

b. Able to work in a small group.

c. Trained in observation and recognition.

Training

0996. The following subjects need particularly to be covered in training for OP work:

a. *Contact Reports and SITREPS.* These must not just be left to the OP commander, who may be resting at the crucial moment.

b. *Recognition.* Terrorist or AFV depending on the theatre.

c. *Map Reading.* An observer must be able to give accurate six figure references.

d. *Artillery Target Indication.* The commander must be trained.

e. *Camouflage and Concealment.*

f. *Observation Technique.* Correct use of binoculars and observing into shadow.

g. *Memory Training.* To notice the suspicious, one must be able to compare the present with the past. Kim's game is a good training method.

h. *Panorama Sketching.* This is a useful skill which will lead to better debriefs.

i. *Range Cards and Distance Judging.* Mark six figure references of prominent objects and artillery/mortar target numbers on range cards.

0997. ***Equipment.*** Some or all of the following items should be taken. The list is not exhaustive:

a. Personal weapons.
b. Optics of all types, including II devices.
c. Log and code sheets.
d. Map and air photographs.
e. Food and water.
f. Radio equipment. Spare radio? Spare batteries and AF gear.
g. Medical equipment.
h. Digging and cutting tools, wire cutters.
i. Warm clothing, camouflage nets, face veils.
j. Rubbish sacks.
k. Sleeping bags for half the patrol.

0998–09100. *Reserved.*

SECTION 72—SNIPERS

Organization and Training

09101. Ideally snipers should train and operate in pairs; one as an observer and one to shoot. Eight sets of sniper equipment are issued to battalions. Thus it is desirable that there should be a 100% trained reserve, allowing eight pairs to operate if required.

09102. Training is best carried out on a centralized basis under the Assistant Operations/Training Officer (WO2) at battalion HQ. A suggested deployment of snipers is two pairs per rifle company, their deployment on operations being co-ordinated by the Intelligence Officer.

09103. The techniques of sniping are covered in detail in Infantry Training Volume I, Skill at Arms (Individual Training), Pamphlet No. 4, Sniping 1976 (Army Code No. 70739).

09104. ***Equipment.*** The sniper's weapon is the L42A1 7.62 mm Sniper rifle, fitted with the L1A1 telescopic sight. In addition each of the eight sets of equipment includes one of each of the following items:

Scout Regiment telescope
Binoculars
Prismatic compass
GS watch

Each sniper would also have an IWS from within the company scale.

Characteristics of the Sniper and Equipment

09105. Sniping is only an extension of many of the natural infantry skills, each developed to a specialist standard. So the sniper is of great value and whilst the aim of sniper training must be to produce snipers, his training in a unit should help to raise the training standard of all soldiers.

09106. A sniper must be an expert shot and be able to hit a man with the first shot up to ranges of 600 metres. He must be capable of putting down accurate harassing fire between 600 and 1000 metres. He must be intelligent, physically fit, able to think for himself and be capable of making quick decisions. He should have a personality that is compatible with having to work for long periods in isolation. A man with a country rather than town upbringing adapts more quickly to sniper work. He must have an eye for ground, cover and approaches and must be expert at using them to his own advantage.

09107. The telescopic rifle sight, together with the specialized sling used when shooting, permits accurate fire under conditions when normal sights would be of limited value. Best results are often obtained on moonlit nights or at dusk and dawn when the enemy does not expect to be subjected to accurate aimed fire. The effectiveness of the sniper is increased considerably with the use of the IWS.

09108. The special observation training a sniper receives enables him to be a useful source of intelligence. His training therefore must also cover the method of reporting and keeping an observation log.

The Employment of Snipers

09109. The employment of snipers will vary with the phase of war, theatre of operations and the immediate local requirements. Careful planning and organization will be necessary in order to make the best use of snipers and their skills.

09110. ***In Defence.***

a. An important role of the sniper is to dominate the area between opposing forces. The aim is to limit the activities of enemy snipers, observation posts, patrols and movement in general, and to lower enemy morale.

b. He will also be required to observe enemy positions and movement and to report accurately what he sees.

09111. ***In the Attack.*** There is little opportunity to employ a sniper in the attack, although on reorganization, when the situation returns to that of defence, the sniper can undertake the tasks already described.

09112. ***In the Withdrawal.*** Snipers can assist with deception by concealing from the enemy the exact time of withdrawal. The maintenance of normal sniping activity for as long as possible will help to achieve this end. Whilst the sniper should not be committed to suicide tasks he can be of great value in delaying an enemy follow up by his ability to shoot accurately at long ranges.

09113. ***Internal Security Operations.*** Apart from the value of a sniper as a source of intelligence, internal security operations demand the ability to fire accurately in populated areas, a task which the sniper is well able to fill. A sniper could be a member of a roof top patrol.

09114. ***Tactical Considerations.***

a. Snipers are best employed in pairs, since one man cannot shoot and observe at the same time. Observation with the telescope is very tiring, and two men observing alternately achieve much better results. The second man can carry a radio which will enable artillery or mortar fire to be called for. Also the maintenance of morale and efficiency is much easier with two men than when operating alone.

b. Hides should be used as often as possible, particularly in the defensive role. The position of these hides should allow the arcs of neighbouring snipers to overlap. It may be necessary when units are widely dispersed, to site snipers forward of the FEBA, in order that they may shoot at shorter ranges. Such positions must always be covered by fire, and if occupied at night, given the local protection of a standing partol. Training in the preparation and manning of these hides is essential.

c. Friendly forces must always be informed of local sniper activity to minimize the chances of casualties caused by their fire.

CHAPTER 10

AMBUSHES AND ROAD BLOCKS

SECTION 73—PRINCIPLES

1001. An ambush is a surprise attack, by a force lying in wait, upon a moving or temporarily halted enemy. It is usually a brief encounter and does not require the capture and holding of ground. The attack from ambush is normally at close quarters. Ambushes may be used in front of, or behind the enemy FEBA, against both regular and insurgent forces. A series of successful ambushes will make the enemy apprehensive and cautious in movement. Ambushing is often considered to be a counter insurgency operation with little application to conventional war. This is incorrect. The enemy encountered in conventional war is less likely to expect an ambush than a guerilla soldier and will be easier to ambush.

Ambush Sites

1002. Suitable places for ambush include:

a. Known enemy routes in forward and rear areas.

b. Administrative areas, supply and water points. In counter insurgency operations, the approaches to a village or cultivated area and known or suspected food dumps or arms caches are particularly suitable.

c. Areas where a marked change of vegetation occurs, such as the junction of forest and grassland.

d. Probable lines of enemy withdrawal after a successful attack by our forces.

e. The approaches to our own base camps, and defensive positions.

f. The withdrawal route from an ambush site to catch an enemy follow-up.

Categories of Ambush

1003. There are two categories of ambush:

a. Deliberate.

b. Immediate.

1004. **The Deliberate Ambush.** A deliberate ambush is one planned and executed as a separate operation. There should be time to allow planning, preparation and rehearsal in great detail. It may vary in size from a small four man ambush to a major operation using a whole battalion.

Many opportunities will exist for small scale ambushes up to platoon strength. The smaller the force the easier it will be to move it into the ambush area, to control the operation and to withdraw it after the battle. Success with large scale ambushes may be more difficult to achieve. Two examples of the circumstances in which large scale ambushes might be laid are:

a. During counter insurgency operations, to lure an enemy follow-up force into a prepared ambush position.

b. When information provides exact enemy locations such as an assembly area, or the movement of large numbers of reinforcements.

1005. ***The Immediate Ambush.*** An immediate ambush is one set with a minimum of planning either to take advantage of 'hot' information or as a contact drill by a patrol. Little or no time will be available for reconnaissance and the amount of success achieved will depend on the initiative of the commander concerned, rehearsed and well known drills and the general ability and discipline of the team.

Principles of Ambushing

1006. ***Sound Intelligence.*** Ambushes should not be set on chance or just to keep the men occupied, but based on sound intelligence. Information will come from:

a. Patrol reports and OP logs.

b. A knowledge of the area and therefore an appreciation of likely enemy movement.

c. Surveillance devices.

d. Military intelligence sources.

e. Police Special Branch (counter insurgency operations).

1007. ***Planning, Reconnaissance and Rehearsal.***

a. Study the enemy so that his tactics and counter ambush techniques can be used to the ambusher's advantage.

b. Plan the reconnaissance and make it detailed and thorough.

c. Ensure that all the ambush party know exactly what to do. Do not plan several variations.

d. Rehearse all possible actions by day and, if applicable, by night. A withdrawal to avoid the enemy counter ambush could prove disastrous if it has not been rehearsed.

1008. ***Security.***

a. Too much reconnaissance and movement in the ambush area could give away the position. The enemy has the choice of:

(1) Avoiding the area.

(2) Booby trapping the area.

(3) Ambushing our forces as they move in.

b. Move out of the main base camp or position by night and be clear of civilian areas by dawn.

c. Plan for an enemy follow-up after the ambush has been sprung. Protect the route back to the base camp or main position.

d. Do not reoccupy old ambush sites.

1009. ***Concealment.***

a. Avoid leaving tracks in the ambush area, especially on likely enemy approaches and in the killing ground.

b. Too much cutting of foliage to obtain good fields of fire could help the enemy to spot the ambush.

c. Ensure that personal camouflage is of the highest standard.

1010. ***Good Control.***

a. All members of the ambush must know the plan in detail and the exact location of all groups.

b. Have clear signals for *"Cease fire"*, *"Search"* and *"Withdraw"*. Do not attempt a complicated system of 'string tugging' signals. String is useful for alerting groups and individuals. Keep the system simple otherwise confusion will arise and the enemy will be alerted by rustling and moving vegetation.

c. Control can easily be lost if the enemy proves to be too strong for the ambush. Ensure that all members of the ambush know:

(1) The location of the final RV.

(2) The withdrawal routes from their positions to the final RV.

(3) The order in which groups withdraw to the final RV.

(4) Action in the final RV.

1011. ***A Simple Plan for Springing the Ambush.*** This is covered in Section 77.

1012. ***Maximum Use of Fire Power.***

a. Site GPMGs so as to make the best use of their flat trajectory and long beaten zone.

b. Use artillery and mortars to:

(1) Hit the enemy outside the killing ground.

(2) Disrupt the enemy counter attack.

(3) Harass the enemy flight.

(4) Assist the ambush party to withdraw.

c. Shoot to kill.

1013. ***Battle Discipline.***

a. There must be no noise and the minimum of movement in the ambush.

b. All must be prepared to stop smoking, stop coughing and snoring ! and to live on cold rations for the operation. This can be for hours or even days.

c. A high standard of alertness must be maintained. Only men nominated by the commander can relax.

d. Reaction to signals must be fast.

e. All in the ambush must have a clearly understood drill to hold their fire and to shoot to kill.

f. Weapons must be ready to fire at a moment's notice.

1014. ***Training.*** This is covered in Section 78.

1015. The secret of success is fast co-ordinated action against a surprised enemy held within a well covered killing area.

1016–1020. *Reserved.*

SECTION 74—PLANNING

1021. The ambush commander will be given the aim of a deliberate ambush. He may be told or decide himself the strength, general location and duration of the ambush.

1022. The strength of an ambush must be kept to the minimum required to achieve the aim. A prolonged ambush will need reliefs and will raise the overall size of the ambush force but not the strength of the ambush party. An increase in automatic weapons or an intelligent use of other killing devices, e.g., CLAYMORE mines, might allow a reduction in strength of the ambush party.

1023. The amount of planning which an ambush commander can carry out before leaving his base will depend upon the availability of information, his knowledge of the ground and whether he has been able to carry out a preliminary reconnaissance. His planning will not be complete until he has carried out a detailed final reconnaissance. It is quite possible that this final reconnaissance will be the only one that the ambush commander will be able to undertake for security reasons.

Planning Factors

1024. There are many factors to be considered when planning an ambush. All of them are directly related to the principles of ambushing.

1925. ***The Mission.*** The mission may be:

a. To capture a prisoner.

b. To destroy an enemy force.

c. To kill fleeing enemy (as part of a stop line).

d. To destroy a certain part of an enemy column.

1026. ***The Enemy.***

a. Habits, organization, state of training, uniforms and arms.

b. The aim of patrols, their size, individual and group spacing, their routes.

c. Tactics and counter ambush action.

d. Artillery or mortar support, including response time and efficiency.

1027. ***Friendly Forces.***

a. Area clearance.

b. Location of other patrols.

c. Location of back-up forces to reinforce or to assist withdrawal. This includes transport if required.

d. Location of own bases.

e. Location of own artillery and mortars and their available fire support.

1028. ***Surprise and Security.***

a. Obey the principles of security and concealment.

b. Select a site where the enemy is unlikely to deploy forward and flanking scouts in advance of his main body.

c. Vary ambush patterns and methods.

d. Use a deception plan to cover the move of an ambush force from its base camp.

e. Assume that civilians are hostile and plan for civilians walking into or spotting the ambush.

1029. ***Fire Support.***

a. Use artillery and medium mortars with pre-arranged tasks to:

(1) Hit the enemy outside the killing ground.

(2) Disrupt the enemy counter attack.

(3) Harass the enemy flight.

(4) Assist the ambush party to withdraw.

b. Consider the use of other available weapons:

(1) Light mortar.

(2) MAW.

(3) LAW.

1030. ***Ground.*** It may be possible to select a site by careful study of maps, air photographs and recent patrol reports. Detailed reconnaissance is essential to select:

a. A final RV.

b. A covered route into the ambush site.

c. Enemy approach routes.

d. The killing ground.

e. Positions for sentries/OPs.

f. Cover from view in the ambush area and fields of fire.

g. Positions for all groups, automatic weapons and anti-tank weapons.

h. Positions for all CLAYMORES and their direction of fire.

i. Positions for all trip flares and other illuminants.

j. Suitable base area if ambush is prolonged.

k. Withdrawal routes, check points and emergency RVs.

l. Enemy escape routes.

1031. ***Obstacles.*** Maximum use should be made of both natural and artificial obstacles to channel the enemy, to hinder his counter attack and to delay his flight. These obstacles may include natural features, CLAYMORE or anti-personnel mines, grenade necklaces, panjis (sharp wooden stakes), barbed wire or any other device. Suitable places for obstacles and CLAYMORE mines are:

a. On likely enemy lines of withdrawal.

b. In dead ground beyond the killing ground and to the flanks of the ambush site.

c. In areas outside the killing ground where the enemy main body is likely to halt and form up for a counter attack.

d. On likely enemy counter attack routes.

1032. ***Control and Signals.*** Good control is essential and the larger the ambush, the harder it is to achieve. The following must be planned and all members of the ambush force briefed in detail, bearing in mind that there is a limit to the amount of detail that a soldier can absorb and remember. The signals and the method of sending them should be standard within a company, so that men can learn them by heart:

a. The detailed deployment into the ambush position.

b. The signal for 'ambush set'.

c. The method of relieving groups and sections of the ambush.

d. The method of alerting the ambush party on the approach of the enemy force.

e. The signal for opening fire.

f. The signal for cease fire.

g. The signal for the search.

h. The signal for withdrawal.

i. The methods of withdrawal to the final RV:

(1) In face of an enemy attack.

(2) When the enemy has withdrawn, leaving dead and wounded behind.

(3) When the ambush has not been sprung.

j. The plan if the ambush is detected or compromised.

1033. ***Equipment.*** The equipment required depends on the task and duration of the ambush. Special items which might be needed include:

a. Mines, booby traps, wire and explosives.

b. TOBIAS, IRIS and IWS.

c. Defence stores.

d. Flares and igniting equipment.

e. Nylon cord for prisoners.

f. Tree climbing irons for OPs and snipers.

g. Light (nylon) rope to help in climbing trees or rocks.

1034. ***Grouping.*** An ambush is made up of a number of groups. The size of these groups will vary but each group must be self contained and have a nominated leader. If a preliminary reconnaissance has not been possible a broad allocation of groups can be made during the preliminary orders. The final deployment will then be confirmed after the final reconnaissance when the ambush force reaches its area.

Communications

1035. The organization of communications within an ambush area so that messages and orders can be passed easily, and yet do not betray the position, poses a difficult problem. Communications are required:

a. From the ambush commander to all his groups.

b. From the ambush commander to his ambush base.

c. From the FOO or MFC to the guns or mortars.

d. From the ambush commander to his main base.

e. Within groups.

1036. A large ambush will need good radio communications and possibly line. A small ambush will depend on hand signals, hand taps and cord for all communications within the ambush (woven nylon fishing line or marker balloon cord is ideal). Electrical systems such as light bulbs and buzzers have been used successfully but these are not simple as they necessitate a code of flashes and buzzes, and are susceptible to the effects of humidity and climatic variations.

Layout of an Ambush

1037. In laying out an ambush there are three basic principles to observe:

a. All possible approaches must be covered. Information may often give the destination of the enemy but will seldom give the exact route he will take. No matter how good the information, the enemy may arrive from an unexpected direction. This has caused many ambushes to fail in the past.

b. The ambush must have depth. The type of depth will vary with the enemy tactics:

(1) If the enemy usually scatters and flees at the first burst of fire, the chances of getting a second burst from the same position are small. In this case the depth is outwards and often forward of the killing ground to cover escape routes and to get another shot at the enemy.

(2) If the enemy counter attacks then this type of depth will make control difficult and could result in the loss of stop

groups. In this case the depth must be to the rear and flanks of the killing group to cover the ambush party's withdrawal and to block the enemy counter attack.

c. The ambush must have all-round defence. No matter the type of enemy or the type of ambush, all ambushes and if possible each group, within an ambush, must be sited with all-round defence. (*See* Fig 36). The main fire power is needed to kill the enemy in the killing ground and to guard against enemy counter ambush moves.

1038. Setting an ambush on both sides of the killing ground has the advantage of preventing the enemy escape. It may be necessary with a large ambush to prevent the layout becoming too extended. However it has the following disadvantages for small ambushes:

a. The killing ground or the enemy approach routes will have to be crossed.

b. There is a danger that own troops may fire at each other unless both sides of the ambush are on high ground.

c. Control will be more difficult, especially if a change of plan is involved.

d. Withdrawal will be more difficult.

1039. If an ambush is set on one side of the killing ground only, control is easier. However, some of the enemy may escape on the opposite side. To prevent this stops may be placed in dead ground, or mines, booby traps and panji stakes laid on the opposite side of the killing area.

1040. In general, a large ambush, two companies or more, designed to trap and destroy an enemy force will nearly always be sited on both sides of the killing ground. A small ambush is not suitable for this type of layout and will usually be sited on one side of the killing ground only.

Action After Springing the Ambush

1041. The action after springing the ambush must be planned in great detail. It is dealt with in detail in Section 77.

The Withdrawal

1042. The route and method of withdrawal will have a bearing on the selection of the ambush site and frequently on the detailed layout. Detailed plans for the withdrawal must be made. This will involve specifying the movement of all groups. When an ambush is sprung and it is quite obvious that the aim of the ambush cannot be fully achieved, the

ambush commander must make full use of the surprise and confusion amongst the enemy to inflict the maximum number of casualties and at the same time to achieve a clean break. Small parties may be left behind to cover the withdrawal and to ambush any enemy follow up or relief force. Withdrawal plans must cover the following circumstances:

a. Searching the dead after a successful ambush.

b. When no enemy enter the ambush area and the ambush is not sprung.

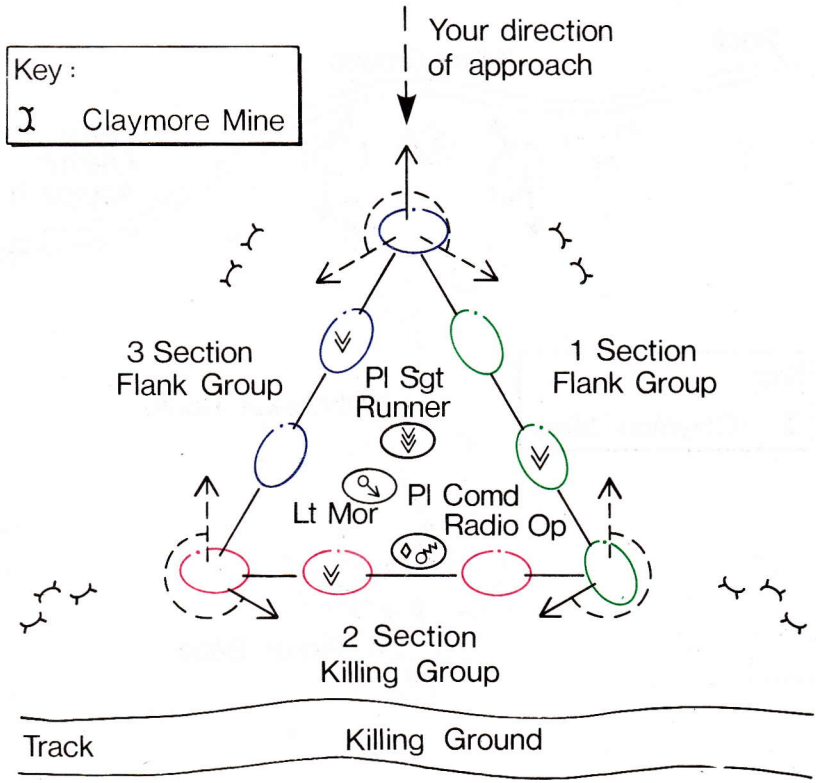
c. When a superior enemy force either approaches the ambush site or is ambushed and counter attacks.

Administration

1043. A large number of ambushes are sprung within a few hours of setting and require no special administration other than arrangements for rest within groups. These are called short term ambushes. Where ambushes are set for more than 12 hours they become long term ambushes and administrative arrangements for relief of groups, for feeding and for sleeping are necessary. Such an ambush may be placed on a known enemy supply and reinforcement route or on the approaches to an enemy food dump. Long term ambushes require good self discipline and training in lying still for very long periods.

1044. In long term ambushes an ambush base must be set up (*see* Fig. 37).This is exactly the same as a normal patrol base and must follow the same principles. It should be sited far enough from the ambush position to avoid noises and smells disclosing the presence of troops. This distance may vary from 200 metres in jungle to 500 metres in open country. It may well be possible to use the ambush base as the RV or as a depth position to which groups can withdraw if the enemy counter attacks. Therefore the base must have a permanent commander and may well have fire trenches prepared and CLAYMORE mines sited to block likely enemy attack routes.

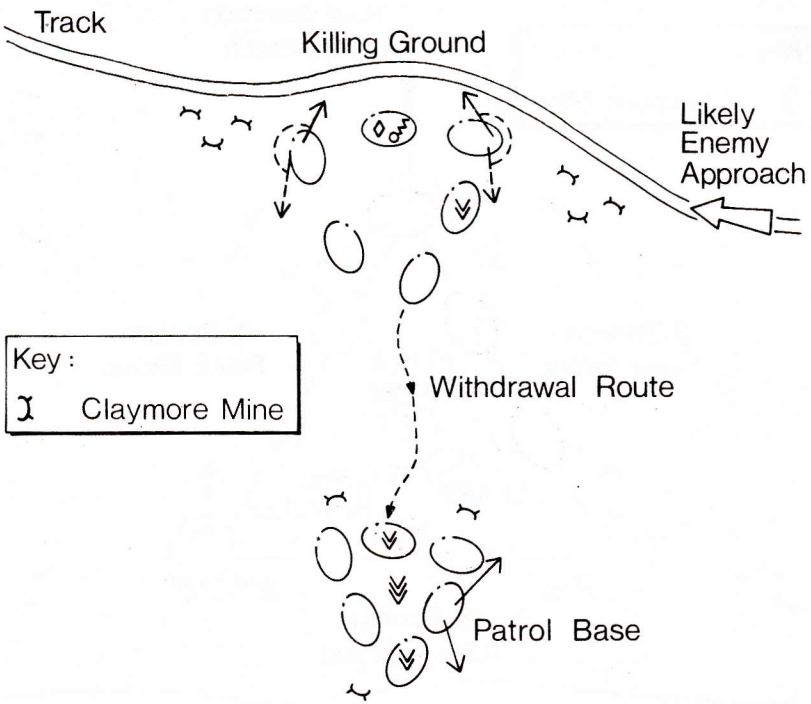
1045. Routes from the base to the ambush site will have to be cleared to avoid groups missing the way and to enable reliefs to be carried out silently. Although the whole party in the ambush will eventually be relieved, only one fire position should be changed at a time in case the enemy approaches during this period. The reliefs should take place when no enemy movement is expected. The system of relief must be rehearsed and all groups must know the time of relief of their own group and of flanking groups. It is advisable for each group to have a length of cord from the group commander running 10 to 15 metres back along the route to the



Notes:

1. The GPMG arcs as shown are their primary ones but they can fire in any direction as depicted by the dotted lines.
2. The signaller and runner are interchangeable.
3. The siting of CLAYMORES will depend on availability and terrain but should, if possible, cover all approaches.
4. If enemy attack or come from any direction at least two GPMGs can engage.
5. The distance between men and groups will be dictated by the ground and whether it is day or night.

Fig 36.—Layout of a Platoon Triangular Basic Ambush (Short Term)



Note:
The distance between men and groups will be dictated by the ground and whether it is day or night.

Fig 37.—Layout of a Platoon Triangular Basic Ambush (Long Term)

base so that the incoming reliefs can signal their approach. Normal relief should not be attempted at night when all movement is considered to be hostile.

1046. Ideally a long term ambush should be divided into three parties; one in the ambush position; one as a reserve or cover party and one resting in the base. On relief the party resting in the base takes over the ambush position, the party in the position becomes the reserve and the reserve party moves to the rest area. This system provides:

a. A well rested party for the ambush site.

b. A tired party for the cover party and reserve. This is acceptable as the reserve is unlikely to be involved in springing the ambush and half can be resting at a time.

c. A base party which can relax, except for sentries, and who can provide a defended RV to assist withdrawal.

1047. With an under strength platoon, if it has to be divided into three parties, each party may be too weak to do its task properly. In this case there should be two parties, one half of the platoon providing the killing and flank groups, the other half resting in the ambush base with a number of men on stand by as reserve. This second system has the advantage of being simpler to plan and easier to operate than the three party system of relief.

1048. Because of security it may be impossible to cook or smoke in the ambush base. Ambush commanders must plan their rations carefully so that the food taken on the operation is both sustaining and palatable when eaten cold. It may be necessary to ensure that no one attempts to take hexamine or cigarettes with them. Suggested rations could include:

a. Spam and corned beef but not stews.

b. Oatmeal blocks, biscuits, bread, tinned puddings.

c. Cheese and jam.

d. Chocolate and sweets.

e. Dates, dried fruit, apple flakes.

f. Powdered drinks.

1049. The ambush commander must plan for the evacuation of casualties. This can cause difficulty out of all proportion to the casualties received and action will depend on:

a. The remaining active strength of the force.

b. The nature of the casualty.
c. The distance to the nearest friendly location.
d. Suitable helicopter LPs.
e. Enemy reaction.
f. Time of day.
g. Weather.

1050. Arrangements should be made for lightweight stretcher tops and a well equipped medical bag to be carried and possibly a medical orderly to be included in the party.

Alternative Plans

1051. Alternative plans should be avoided if possible, unless the alternative plan to be adopted in particular circumstances is simple and obvious to all. The ambush commander must devise a fool proof method of informing everybody of a change of plan.

1052. If the enemy surprises the ambush by appearing from an unexpected direction or in unexpected strength the ambush commander must decide whether to lie low and withdraw secretly, or to open fire and rely on surprise and confusion amongst the enemy to make good his withdrawal. In either case he will often find it worthwhile to set another ambush on his withdrawal route to delay the enemy follow-up.

Night or Day Ambushes

1053. The decision to set a day or night ambush will depend on:

a. The terrain, the cover from view and the fields of fire.
b. The pattern of enemy movement.

1054. A high proportion of night ambushes will be set in desert or cultivated country where cover is limited and where enemy movement will take place at night. Day ambushes will be set in dense country which gives good cover to enemy day movement and to an ambush force.

1055. Night ambushes have similar characteristics to day ambushes. Particular points which apply to night ambushes are:

a. Concealment is easy but shooting is much less accurate.
b. Automatic weapons will produce a better volume of fire than single shot weapons.
c. All weapons, particularly GPMGs firing down tracks, must have the left and right of their arcs of fire fixed by sticks in the ground.

d. The ambush party must never move about. All movement will be regarded as enemy.

e. Clear orders, precise fire control instructions and good signals are essential.

f. Men and groups will be sited closer together than by day. Control at night is all important.

g. It is more difficult to take up an ambush position at night. Where possible, it should be occupied before last light. However, there will be times when to move in by daylight could compromise the ambush :

(1) When ambushing near a village or cultivated area.

(2) When ambushing in very open country.

Therefore, platoons must be rehearsed in the occupation of an ambush position by night as part of their ambush training.

h. Illumination may be needed. Notes on the use of flares and lights are included in Section 79.

1056. A long term ambush may be occupied by night and not by day or vice-versa, or it may be occupied by day and night. This may pose additional problems as the night position may be too exposed for use by day. This would require an alternative day position, with the risk of the enemy spotting traces of the night position as they enter the killing ground.

1057–1060. *Reserved.*

SECTION 75—SMALL DELIBERATE AMBUSHES

1061. This section deals with the layout of small scale deliberate ambushes of up to platoon strength.

Grouping

1062. All ambush parties are subdivided into smaller groups with their own leaders. The type of group required, and the number of men in each group will depend on the operating habits of the enemy and the terrain in which the ambush is set.

1063. ***Killing Group.***

a. *Task.* To cover the chosen killing ground and to spring the ambush.

b. *Size.*

(1) Section ambush, four or five men.

(2) Platoon ambush, up to one section. More could be used but this will depend on how many other groups are needed and whether there is an ambush base.

c. *Composition.* The killing group should contain the ambush commander and should have a high proportion of automatic weapons. GPMGs should fire from a defilade position and not directly across the killing area. Bearing in mind the problems of security it is desirable that this group is dug-in.

1064. ***Flank Groups.***

a. *Tasks.*

(1) To give warning of enemy approach from the flanks.

(2) To hinder enemy escape.

(3) To give flank and rear protection to killer group.

(4) To defeat enemy flanking counter attack.

(5) To protect the remainder of the ambush party during a hasty withdrawal.

b. *Size.*

(1) Section ambush, a total of five men.

(2) Platoon ambush, two sections.

c. *Composition and Layout.* For platoon strength ambush—*see* Fig 36.

Layout of Groups

1065. Groups may be employed in two ways, bearing in mind the principles of layout:

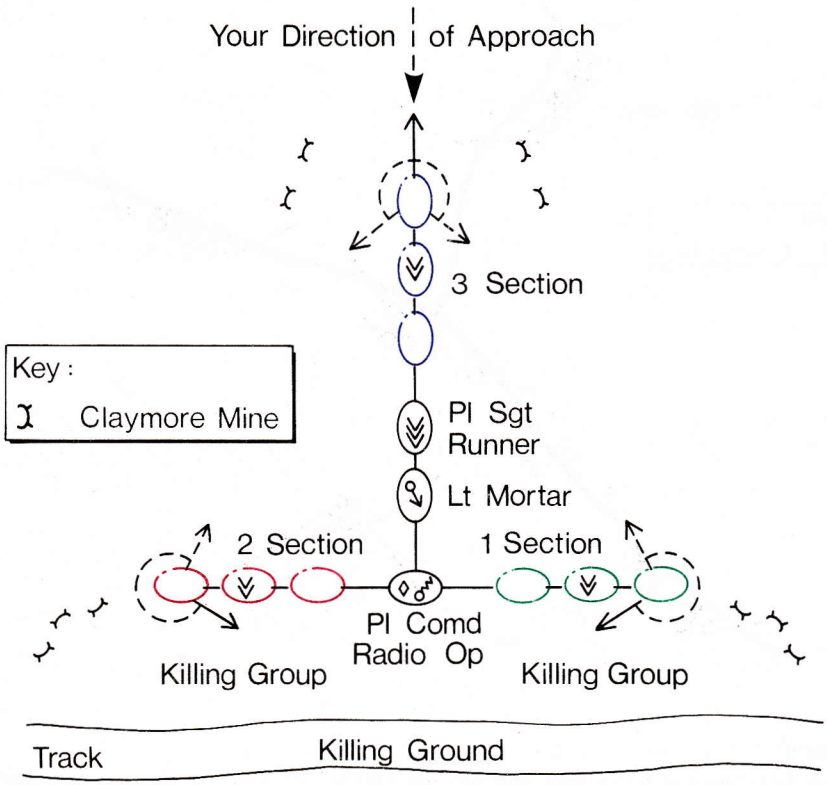
a. *Basic Ambush.* When, because of the ground, there is only one likely approach, a group may be sited in depth with all round defence at a place on that route which gives good concealment. This is a basic ambush. It is used when the area ambush is impossible or as part of an area ambush, along a very likely approach track. There are three main types of basic ambushes:

(1) Triangular (*see* Figs 36 and 37).

(2) 'T' (*see* Fig 38).

(3) Linear (*see* Figs 39 and 40).

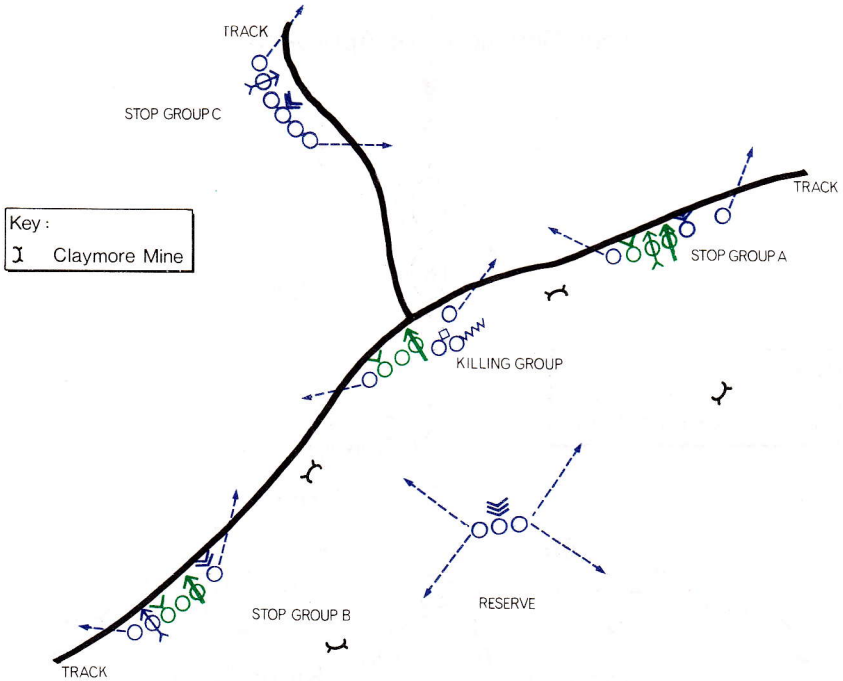
b. *Area Ambush.* Where there is more than one approach, all must be covered. Approaches should be covered in depth to catch the



Notes:

1. The 'T' ambush differs from the triangular ambush as follows:
   - **a.** Composition. Two thirds of the ambush party are in the killing group.
   - **b.** Sequence of Occupation. The killing group move in followed by the headquarters group followed by the flank protection group.
   - **c.** Withdrawal. Groups withdraw in reverse order to occupation.
2. The distance between men and groups will be dictated by the ground and whether it is day or night.

Fig 38.—Layout of a Platoon 'T' Basic Ambush (Short Term)



Note:
The distance between men and groups will be dictated by the ground and whether it is day or night.

Fig 39.—Layout of a Platoon Linear Basic Ambush (Short Term)

enemy scattering from the ambush position. Such an ambush is called an area ambush (*see* Figs 41 and 42). It consists of a series of basic ambushes, each with its own commander, sited as part of an overall plan to trap a particular enemy party. The ambush party moves to a dispersal point, which normally is the final RV, from where groups move by selected routes to their positions. The ambush commander must take great care to ensure:

(1) That each group is positioned in the correct place.

(2) That each group knows the locations of all the other groups.

(3) That there is no risk of groups being in each other's arcs of fire.

1066. The choice of a basic or area ambush depends mainly on the enemy habits and tactics. These have already been mentioned in previous sections.

1067–1070. *Reserved.*

SECTION 76—PREPARATION AND OCCUPATION

Sequence

1071. The sequence of actions preparatory to occupying an ambush position is:

a. Reconnaissance.

b. Issue of preliminary orders in the base camp.

c. Preparation and rehearsal in the base camp.

d. Move to the ambush area.

e. Final reconnaissance by ambush commander and group commanders.

f. Final orders by ambush commander.

g. Occupation of the position.

Reconnaissance

1072. The ambush commander should if possible carry out a reconnaissance of the ambush site prior to the issue of preliminary orders. This, however, may often be impossible for security reasons and the only reconnaissance will be limited to a study of air photographs, maps and patrol reports.

1073. During his reconnaissance the ambush commander must try not to walk in the killing area, as footprints or disturbed earth may warn an alert enemy. Therefore reconnaissance must usually be completed from the rear of the selected ambush site. Observing the ground from the enemy point of view, though desirable, may prejudice security. The commander will select or confirm the following:

a. Killing ground and ambush position. A killing ground of 30 to 50 metres for a section ambush and 60 to 100 metres for a platoon ambush is desirable. This will of course vary according to terrain.

b. Position of each group to be deployed. These must offer:

(1) Concealment (including entry).

(2) A good view of the killing ground or enemy approach routes, depending on the task of the group.

(3) All round defence.

c. The final RV and routes to and from it.

d. Ambush base area (if necessary).

e. Withdrawal route.

1074. The site selected should:

a. Be easy to conceal, so that from the enemy point of view it appears unoccupied.

b. Not offer an early and easy escape to those enemy who are in the killing ground and are not killed when the ambush is first sprung.

c. Allow certain troops to give early warning before the first enemy enters the ambush.

d. Be capable of being covered by all weapons.

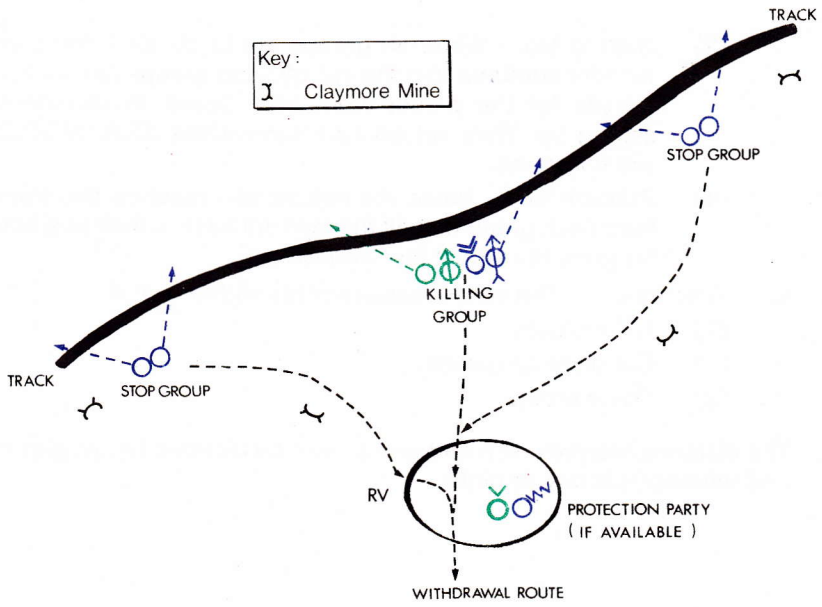
e. Have a good covered approach avoiding contact with known enemy positions or local inhabitants.

1075. ***Detailed Siting.*** After deciding on the general layout the ambush commander must now consider the following points in detail:

a. Positions of automatic weapons. These must cover the killing area with subsidiary roles of sealing each flank of the ambush and covering likely enemy withdrawal routes. A GPMG will be needed on each flank to block the enemy counter attack.

b. Ground not covered by automatic weapons must be covered by riflemen.

c. If enemy vehicles or tanks are expected:



Notes:

1. The linear ambush differs from the triangular ambush as follows:

   a. Composition. Instead of flank groups there are cut off/stop groups and cover groups (each with its own commander).

   b. Sequence of Occupation.

   (1) Reconnaissance. The ambush commander takes with him the cut off/stop groups' commanders, his signaller and a sentry from each cut off/stop group. He places the sentries in their respective locations during the reconnaissance and they remain in position throughout.

   (2) Occupation. The cut off/stop group commanders are sent back to bring forward the rest of the party. They move in cut off/stop groups followed by killer group and finally cover group. They all enter on the same axis.

(continued overleaf)

Fig 40.—Layout of Section Linear Basic Ambush (Short Term)

(3) Setting Up. When all groups are in position the commander confirms that the cut off/stop groups are set then signals for the parties from each group to commence setting up. They set up communications, CLAYMORES, trip flares, etc.

(4) Ambush Set. When the commander receives the signal from each group that all the men are back in their positions he gives the signal for 'ambush set'.

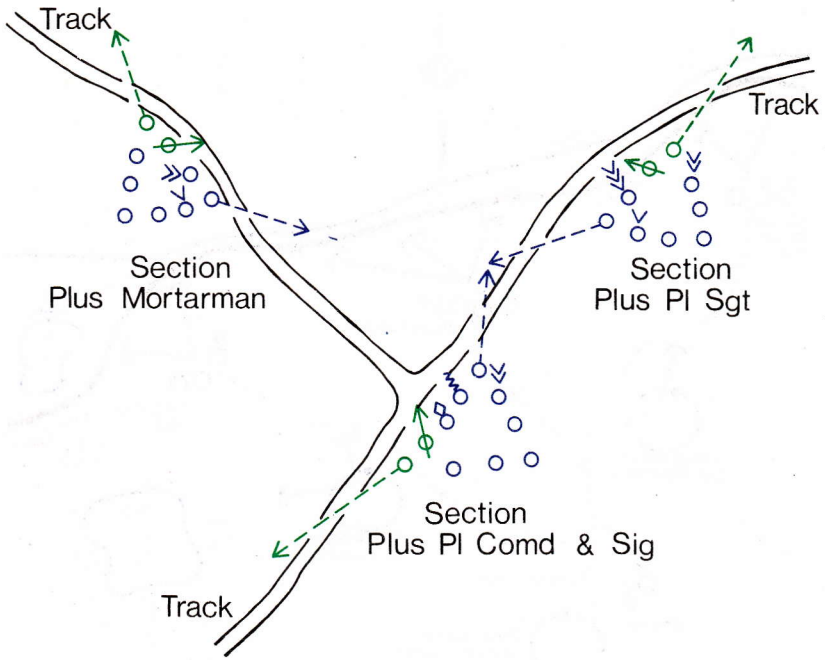
c. Withdrawal. The normal sequence for withdrawal is:

(1) Killer group.

(2) Cut off/stop groups.

(3) Cover group.

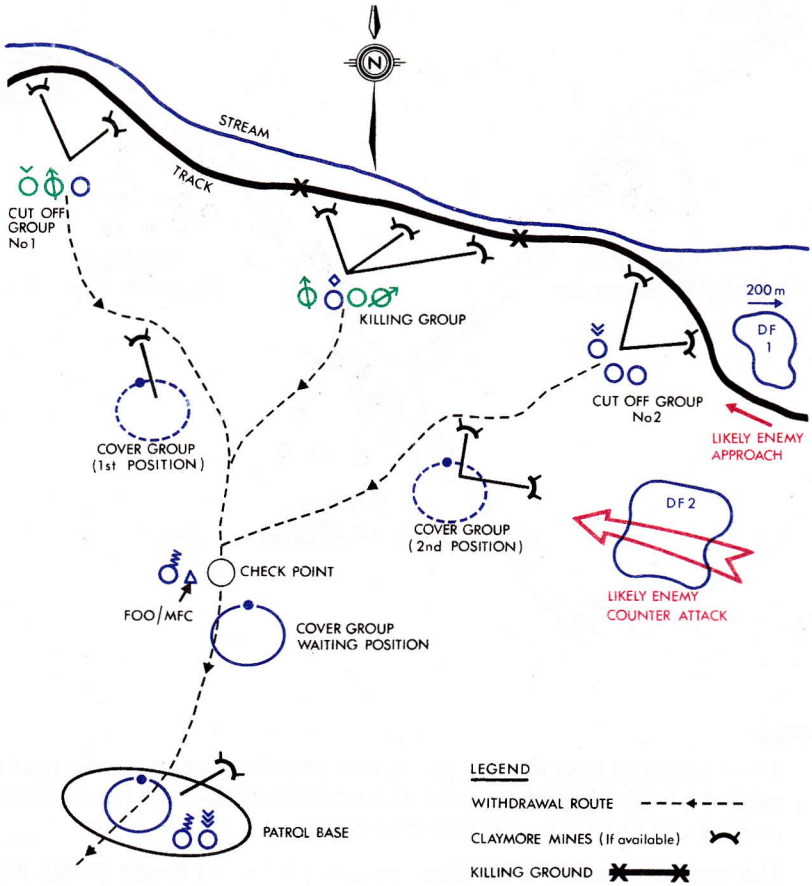
2. The distance between men and groups will be dictated by the ground and whether it is day or night.



Notes:

1. The number of men in each group will vary depending on the type of battalion from which they come, and whether the platoon has sustained any casualties or received reinforcements.
2. The ambush would, if possible, be sprung by the larger group containing the platoon commander.
3. CLAYMORE mines, etc., could be used to thicken the ambush.
4. The distance between men and groups will be dictated by the ground and whether it is day or night.

Fig 41.—Layout of a Platoon Triangular Area Ambush (Short Term)



Note:
The distance between men and groups will be dictated by the ground and whether it is day or night.

Fig 42.—Layout of a Platoon Linear Area Ambush (Long Term)

(1) What blocks are required, i.e., trees, blown banks and craters.

(2) The position of mines.

(3) The position of anti-armour weapons.

d. Careful selection of positions covering enemy approaches, to alert the ambush before the enemy reaches the killing area.

e. Likely enemy escape routes which should be covered by CLAYMORE mines, etc. Artillery and mortar DFs should also be considered.

f. CLAYMORE mines and grenade necklaces can also be sited to protect the flanks and rear of the ambush position against a quick enemy counter attack and to cover the withdrawal route. All explosive devices must be sited in such a way that they can be fired without endangering the ambush party either when they are firing from the ambush position or when they are withdrawing.

Orders, Preparation and Rehearsals

1076. ***Preliminary Orders.*** The ambush commander should brief his party, with the aid of a model, as thoroughly as possible to reduce the time spent on the final orders, and as early as possible, to allow the maximum time for preparation and rehearsal. Specimen ambush orders are given in the Infantry Aide Memoire, Part 1, General (Army Code No. 71153).

1077. ***Preparation.*** Thorough preparation is essential for success:

a. Extra GPMGs may be needed. All weapons must be thoroughly cleaned and tested.

b. Any special equipment, e.g., flotation gear, ropes, climbing irons, should be tested.

c. All radios and inter-ambush communications should be tested. Radios should have new batteries and the ambush commander must make an accurate estimate of spare batteries to avoid any excess load.

d. Night illumination aids, e.g., flare clusters, can be assembled if the distance to the ambush site is short. If a long march is necessary, assembled stores will be difficult to carry and may well disintegrate en route. In this case it will be easier to assemble lighting aids in the final RV. Electric circuits and batteries must be tested before leaving the base.

e. Camouflage of men, clothes and weapons can be completed. Weapons and equipment can be dappled with green and brown paint or dye.

1078. ***Rehearsal.*** Rehearsals should be very thorough and include night rehearsal of night action. They must:

a. Show individual men their positions in the groups and then the groups their positions relative to each other.

b. Show how reliefs, if any, will take place.

c. Test signals and communications.

d. Cover the alerting of the ambush and the method of springing.

e. Cover the search and evacuation of prisoners and casualties.

f. Practise thoroughly the withdrawal. This is vital to avoid confusion and casualties. It should include the escorting of prisoners, including wounded, and the carriage of enemy weapons.

g. Practice the setting out of CLAYMOREs, trip flares etc.

1079. ***Move to the Ambush Area.*** The ambush party should not move directly into the ambush positions; it should stop short of the position, at the final RV, and form a tight defensive triangle. If they have not been on the initial reconnaissance, the ambush commander with his group commanders, and in the case of ambushes of platoon strength, two sentries and the signaller, should then go forward for the final reconnaissance.

1080. ***Final Reconnaissance.*** The amount of reconnaissance undertaken from the final RV depends on the extent of the initial reconnaissance, the time available and the tactical picture. If an initial reconnaissance has been done, then all the group commanders should have seen the ground and their positions. All that will be necessary will be to check that no enemy have moved into the area. If no initial reconnaissance has been possible then the final reconnaissance must cover all the points mentioned in paragraph 1030. In a platoon ambush, following the final reconnaissance the two sentries remain in position. They should be the No. 2s of their respective GPMGs.

1081. ***Final Orders.*** If an initial reconnaissance has been carried out before the preliminary orders were issued, there should only be a need for very brief confirmatory orders unless last minute changes are necessary. If preliminary orders are issued before the reconnaissance, some modification of the outline plan will be necessary as a result of information discovered during the final reconnaissance. Final orders would then include:

a. A description of the ambush area and killing ground. Enemy approaches, escape and counter attack routes.

b. Position of groups and their arcs.
c. Alteration of artillery DF targets.
d. Ambush base area.
e. Siting of CLAYMORE mines and flares.
f. Any variations from the rehearsal in regard to individual tasks.

1082. If the force has arrived at the ambush site by night, then the final reconnaissance must still be confirmed.

Occupation

1083. Individual camouflage must be checked and linked ammunition given to the GMPG gunners before moving forward to occupy the position. Since the enemy may move into the killing ground as the ambush is being laid, occupation must be carried out stealthily from the rear with groups moving one at a time. It is vital that the ambush commander gives an 'ambush set' signal. After this signal no one must go in front of the ambush for any reason until the ambush has been sprung and the order for search has been given.

1084. The normal sequence for occupation of a platoon triangular ambush (*see* Fig 36) is:

a. The platoon commander positions himself at the apex of the triangle.

b. The killing group moves straight through the triangle into into their positions, GPMG facing outwards.

c. The platoon sergeant and remainder of platoon HQ move through to their positions.

d. The remainder of the party move to the apex and down their respective flanks to their positions. GPMGs face outwards until the 'ambush set' signal is given.

e. Reliefs, if any, are shown the ambush site and then are moved back to the ambush base area along the route that they will use during the relief.

f. Parties are sent out to site CLAYMOREs, trip flares, etc.

g. When these parties have returned to their positions the commander checks that all his men are present and then gives the 'ambush set' signal.

h. After this signal no man leaves his position.

1085. Care must be taken to avoid giving the ambush away to the enemy. Great attention must be paid to:

a. Paper scraps, foot prints, bruised vegetation, string, wires,

reflecting surfaces. Crushed vegetation at the side of a track is more likely to be noticed than a footprint on it.

b. Items with a distinctive smell must be left behind. Men's hair must be washed clean of hair oil and cream; users of aftershave lotion must leave their bottles in camp; washing and shaving may be prohibited; cigarettes should be withdrawn before leaving camp; sweets, chocolate and food must not be eaten in the ambush site; curry powder must not be used at all.

c. No man with a cough should be allowed in the ambush.

1086. It may be necessary for groups to cross tracks near the ambush site. Footprints on the track will alert the enemy. If so:

a. Cross the tracks in bare or stockinged feet if the ground is fairly hard. This will leave less mark than a boot, or

b. Wrap the boots in sand bags.

1087. Each individual in the ambush area must be responsible for:

a. Personal camouflage.

b. Taking up the best available firing position.

c. Remaining still and silent for protracted periods.

1088. In a small scale ambush the force can normally be deployed immediately into the ambush site. However, where the enemy are known to deploy scout groups to search ground forward and to the flanks, the ambush force could lie back from the chosen area in a hide and only move forward on a signal from an OP.

Lying in Ambush

1089. Troops must be trained to select a comfortable position and to remain in it without smoking, undue movement or noise for the whole of the time they are in the actual ambush site. This may be some hours. Lying is not the only position used in an ambush position; it may well be possible for a man to sit or stand. Although he may be seen more easily, he will achieve a far greater field of fire. The density of undergrowth will often dictate the firing position. Specific orders must be given concerning eating and drinking. Water bags or plastic water bottles should be used; metal water bottles will make too much noise.

1090. Weapons must be cocked before moving into position and safety catches left off. Grenades, if needed, should be taken from pouches and placed ready to throw. Only selected men should be given grenades, in order to avoid casualties to our own side.

1091. If all members of the ambush observe continuously, no rest is possible and keenness will deteriorate. On the other hand, the killing area must be under observation at all times. This is achieved by changing observers within groups, with group leaders alternating with their group seconds in command. The ambush commander and his second in command relieve each other. The ambush base must have its own commander, who should not be involved in the ambush site. This will allow group commanders to rest when they are in the ambush base. Men not observing can relax, but must remain so that, without undue movement, they can fire on their arcs as soon as they are alerted.

1092. Whether the ambush party will need relief depends on the number of troops available and the duration of the ambush. Reliefs are made only when essential, but troops should not be left in the ambush site too long merely to avoid the problems of relief. In still air conditions, when the temperature and humidity are high and there is no effective shade from the sun, the alertness and efficiency of troops will deteriorate rapidly possibly to the extent that security is threatened, unless counter measures are taken. These conditions are typical of cultivated land, grassland and scrub country in the humid tropics. At the other extreme, the cold or incessant rain in North West Europe will lower the ambush efficiency even faster than heat and humidity. To safeguard the effectiveness of an ambush in either of these circumstances, troops must be relieved regularly. Reliefs must be planned and rehearsed, each man being relieved quietly and slowly, one at a time.

1093–1995. *Reserved.*

SECTION 77—SPRINGING THE AMBUSH

Springing Problems

1096. Whilst the ambush party is lying in wait, it is quite possible for people who are not enemy to pass through the killing area. The action of the ambush party, should this occur, must be pre-planned and rehearsed. The following problems must be considered by ambush commanders:

a. Civilians might move through the killing ground or even halt in the area for a drink of water or a cigarette. In this case the ambush should lie low and try to avoid detection. If the ambush is spotted by a civilian the commander has the choice of:

(1) Detaining the civilian, this is not feasible for an ambush of long duration.

(2) Lifting the ambush and, if possible, relaying it in another site.

b. The enemy may well use civilians as porters, intermingled with the patrol. In this case:

(1) The ambush party can open fire and consider that all in the enemy patrol are enemy no matter if they carry arms or not, or

(2) The enemy can be allowed to proceed unmolested as in some areas it could be very damaging to the 'Hearts and Minds' campaign to shoot 'press-ganged' civilians. As a general guide it will be bad for the morale of the ambush party to let the enemy continue on their way unharmed. They might discover the ambush party's route from their main base to the final RV and then attack the ambush or ambush their withdrawal. To invite troops to open fire selectively on enemy soldiers only could mean hestitancy on the part of the killing group to shoot in case they selected the wrong target. This problem would be increased by dense undergrowth or bad visibility.

c. A friendly patrol, off course, might pass through the killing zone. In theory, this should never happen. In practice, it has happened only too frequently. The ambush party must freeze and lie low until the friendly patrol is well clear. A shout from the ambushers to warn the patrol of their presence, could trigger off a sharp anti-ambush drill from the patrol.

Springing the Ambush

1097. When someone sights the enemy, he tugs the communication cord or gives the signal for the direction of approach and size of the enemy party. Group commanders must alert all the men in their group and the ambush commander must ensure that the ambush base are warned so that a relief party does not arrive at the wrong moment.

1098. When the enemy appears in the killing ground each man will aim, waiting for the signal to fire. Men must avoid rustling vegetation as they follow an enemy with their sights. The ambush should be sprung when as many enemy as possible are in the killing ground and the range has been reduced to a minimum. All men must understand their orders and the drill for opening fire:

a. Fire should not be opened as long as the enemy is moving toward someone in a better position to kill.

b. A small ambush will normally be sprung by the commander, but should any enemy act as though he has seen the ambush, any man who

sees this action should spring the ambush. Because of the risk of the ambush being prematurely sprung, only well trained and experienced men should be sited in those positions close to the killing ground where an alert enemy could discover the ambush.

c. All shots must be aimed to kill. Once fire has been opened men may have to stand up to fire at moving targets.

1099. The commander must be placed so that he has a good view of the killing ground. The signal must never be a shout of "*Fire*", a VERY flare or an unaimed shot. The slightest time pause between signal and effect could mean failure. The signal for springing may be one of the following:

a. An aimed burst from the commander's weapon.

b. An aimed burst from a GPMG which he controls. He can only control it if he is next to the gunner. This is the best method but as GPMGs somtimes jam he must be ready with his own weapon.

c. The controlled explosion of a CLAYMORE mine or series of CLAYMORES.

d. The ignition of a trip flare in conjunction with fire from the GPMG next to the commander. Only used if it is so dark that no other method can be used.

10100. The commander must always make alternative arrangements for springing the ambush in the event of something going wrong with the person or method nominated. A deputy must be appointed and the chain of command must be known to all.

Action After Springing

10101. The action after springing must be planned in detail and rehearsed thoroughly as it is at this stage that control can be lost. It is governed by:

a. The nature of the task.

b. The anticipated enemy strength and his likely reaction.

c. The ground.

Subsequent Action Against a Weak Enemy

10102. ***Enemy Reaction.*** A weak enemy is most likely to cut and run. However, he may try to mount a fast counter attack or recover his casualties.

10103. Once the ambush has been sprung, the normal action is to continue firing from the prepared positions until the enemy has been destroyed. Artillery or mortar fire can be brought down in the cut-off role.

10104. The fire fight will normally be short and sharp. Once enemy movement has ceased, the commander must give the order/signal to stop firing. At this point control will be difficult so the commander must make sure the order reaches every man. For example, he may dictate, in his orders, that each GPMG fires, say, 100 rounds and each rifleman a magazine of 20 rounds before ceasing fire.

10105. The next action is to clean up and search for prisoners and documents. Before this happens, there should be a pause. After the pause the commander orders "*Cease fire*" and sends out his search party. The reasons for this pause are:

a. Wounded enemy may be lying in cover out of sight of the ambush party. They will either try to crawl to safety or wait in order to kill a searcher. During the pause there is a fair chance of someone in the ambush party hearing movement or groans and being able to kill the enemy with aimed fire or a grenade.

b. Intelligence might be wrong about the enemy reaction. The pause will allow the ambush party to listen for an enemy counter attack. Too early a search could mean the ambush party being caught off balance by an unexpected counter attack.

c. In the area ambush, there may well be small parties of enemy trying to escape. There must be a pause to obtain the chance of a 'second shot'.

d. Enemy outside the ambush might try to move into the area after a while to recover their dead. This is a usual Arab and Asian custom. The pause might deceive them into thinking the ambush had withdrawn and a 'second shot' might be obtained.

10106. Searchers must be detailed off in the ambush commander's orders. All involved in the search must know the part they have to play and the rehearsals must cover the search in detail. Sentries may be needed, in pairs, to give warning of any enemy moving back into the area that is being searched. The search party (commanded by the platoon sergeant in a platoon ambush) normally:

a. Checks for enemy in the killing ground and secures any who are still living.

b. Collects the enemy's arms, ammunition and equipment.

c. Searches the surrounding area for dead and wounded.

d. If required, photographs bodies for identification.

10107. By day the search presents few problems for the searchers. But if the ambush is at night it may be risky to move out of the ambush position

to search the killing ground. The reasons are:

a. All movement by night is assumed to be enemy. There is a risk of one party firing at another.

b. The searchers will need to use lights. This will make them an easy target to any enemy still in the ambush area.

c. It is likely to be difficult to search the undergrowth and check for blood and tracks until daylight.

10108. By night an ambush commander can:

a. Order a search of the enemy where they have fallen using torches and/or trip flares.

b. Order the search party to drag the enemy bodies back into the triangle to carry out their search.

c. If his orders allow, withdraw his troops leaving the enemy unsearched.

10109. As a search may be impossible in some cases all men should be briefed to:

a. Observe hits and kills.

b. Observe enemy dress, arms and general efficiency.

c. Listen for distinctive sounds of weapons being fired.

10110. ***Follow-Up Action.*** The ambush commander must report the success of the ambush by radio as soon as possible. If enemy tracks are found leading away from the ambush, follow-up action could take place. The following points should be considered:

a. The ambush party could provide its own follow-up team, detaching sufficient men to evacuate both own and enemy casualties. This will only be possible if casualties are few and the ambush party is still fresh.

b. A tracker team could be located in the ambush RV for follow-up or could be flown in by helicopter should a landing site be available.

c. There may be occasions when an immediate follow-up is needed. If four men enter the killing ground and two are seen to escape, there is no point in waiting. The follow-up group in this case must set off as quickly as possible.

10111. ***Withdrawal.*** On the signal for withdrawal, groups move quickly back to the final RV where they concentrate. The time spent in the RV should be short (unless the force intend to lie up there after a night

ambush). The force must be checked, formed up so that casualty parties and prisoner escorts are protected and move off as quickly as possible. A normal sequence for withdrawal is:

a. Flank groups.

b. Headquarters group.

c. Killing group.

This sequence can change according to the direction from which there is a likely enemy threat.

10112. During the withdrawal groups must be moved and routed so that there is no risk of a group still in position mistaking a moving group for enemy.

10113. ***Casualties.*** Arrangements must be made before occupation for the evacuation of both our own and enemy casualties. Improvised stretchers can be placed at the final RV so that time is not lost on the withdrawal.

Subsequent Action Against a Strong Enemy

10114. As soon as the killing group springs the ambush the following action should take place within the ambush party:

a. The artillery FOO must fire the appropriate DF task to kill enemy who have not entered the ambush area. In order to be able to do this he must be sited in a position where he can observe as much as possible of the ambush area but where he will not get pinned down in the fire fight. His radio link to the guns must be perfect.

b. Flank groups must engage, with CLAYMORE mines and aimed fire, any enemy who are escaping from the ambush area or who are forming up for a counter attack.

10115. ***Enemy Reaction.*** The enemy will initially be confused due to surprise, casualties, noise and possibly inability to locate the source of fire. There will be some loss of control but with a well trained enemy, counter ambush drills or a more deliberate counter attack, can be expected soon after the ambush is sprung. The reaction might be:

a. An immediate assault by the survivors straight into the killing group.

b. An immediate action counter ambush drill carried out by the leading elements of the enemy force. This attack will probably take place within seconds of the first shot.

c. A deliberate counter attack should the first two actions fail. This will take a few minutes to prepare and will allow the ambush party a breathing space to adjust the DF to break up the attack and to commence withdrawal.

10116. ***'Shoot and Scoot' or 'Stand and Fight'.*** The ambush commander has two main choices open to him:

a. To move out as fast as possible after the ambush has been sprung and before the enemy can counter attack.

b. To inflict further casualties by blocking the enemy counter attack.

10117. ***'Shoot and Scoot'.*** This type of ambush force allows a small ambush party to engage a larger enemy force. As soon as the ambush is sprung, the artillery DF must be brought down to hit the enemy outside the ambush area. Flank groups must engage any enemy they see and the killing group should disengage and begin its withdrawal to the final RV as soon as possible. As the ambush force leaves the RV, artillery fire can be brought down on to the ambush site to hit any enemy carrying out counter ambush drills or evacuating their own casualties. CLAYMORES should be used, rather than small arms, to engage the enemy, who will not know whether they have been hit by artillery or by ground troops. TOBIAS can be of great aid to the killing group, for detecting when the killing ground is full.

10118. ***'Stand and Fight'.*** This type of ambush should have as many if not more men involved in the blocking role as it has in the killing area. As much of the ambush force as possible should be dug in to give protection from enemy fire, to allow CLAYMORE mines to be situated close to the position and to enable artillery DFs to be moved closer to the blocking position.

10119. ***Withdrawal.*** If the enemy counter ambush reaction is so fast that the ambush party cannot disengage and withdraw as planned, then it will be better to fight off the counter attack from their present position rather than to move back during the enemy attack.

10120. ***Casualties.*** There may be no opportunity for tending the wounded until they reach the final RV. Casualties should be got back to the RV or ambush base as fast as possible. To treat them in the ambush site may cause delay to the withdrawal.

10121–10125. *Reserved.*

SECTION 78—TRAINING

10126. Ambush training must be aimed at eliminating common faults and improving techniques. Its aims are:

a. To train troops to occupy positions without advertising their presence by noise (including noise of loading and cocking of weapons, movement of safety catches and change levers), movement and disturbance of ground and undergrowth.

b. To ensure the best siting of commanders and weapons. A lack of all round observation will result in the enemy arriving in the area undetected.

c. Good fire control and particularly the even distribution of fire.

d. Accurate shooting at moving targets and countering the tendency to fire high at the light faces of the enemy.

Causes of Failure

10127. The following are some reasons for failure which have been reported by ambush commanders and which may help in training:

a. Disclosure of the ambush by noise:

(1) Cocking weapons.

(2) Moving of safety catches and change levers.

(3) Careless use of water bottles.

(4) Careless use of radios, either voice or telegraph procedure.

(5) Human noises (sniffing, coughing, hoarse whispers, heavy breathing).

b. Disclosure of the ambush by a careless approach and poor camouflage:

(1) Using tracks for the approach route.

(2) Crossing tracks within the ambush area.

(3) Too much cutting of foliage to obtain fields of fire.

c. Disclosure of the ambush by movement:

(1) Movement by individuals.

(2) Movement of relief parties.

(3) Too energetic a tug on the communication cord.

d. Bad siting of commanders with consequent lack of control.

e. A lack of all round observation resulting in the enemy arriving unexpectedly.

f. A lack of a clearly defined drill for opening fire.

g. Fire opened prematurely.

h. A tendency for all to select and aim at the same target, and to shoot high at the faces of the enemy.

i. Misfires and stoppages in key weapons.

j. Poor fire control by commanders.

SECTION 79—AIDS AND ILLUMINANTS

The Trip Flare

10128. Trip flares are a standard issue and require no description. Flares may be used singly or in groups such as a cluster of three.

The Single Flare

10129. ***Characteristics.***

a. A single flare throws a bright light for about 20 metres. The light is inclined to flicker.

b. The flare burns for $1\frac{1}{4}$ minutes.

c. They are light and easy to carry.

d. They become damp and deteriorate easily.

10130. ***Method of Ignition.***

a. *Trip Wire.* This is described in the instructions which accompany each flare. This method does not allow the ambush commander to ignite his flares as he requires and does mean that an ambush could be compromised by an animal or sprung prematurely by scouts.

b. *Hand Pulled.* The flare can be set off by substituting cord for the normal wire and pulling the cord by hand. This method allows the ambush commander to produce light as he wants it. There are several disadvantages to this method:

(1) The line left loose on the ground could be seen or could be pulled prematurely by the enemy.

(2) Burying the line eliminates this first disadvantage. In this case a much stronger pull is needed to clear the line from the earth. This throws earth into the air, which could be spotted by the enemy.

(3) An enemy could be standing on the line as the ambush commander pulls it.

(4) The cord may shrink and prematurely fire the flare.

c. *Electrically.* On operations, an electric detonator may be taped on the top of the flare pot so that the closed end of the detonator is central on the pot, detonator cable connects the detonator to a firing box.

10131. ***Siting.***

a. The flare should be sited so that it is shaded from the ambushers. A direct light will dazzle rather than aid the firers.

b. It must be sited so that the enemy pass between the firers and the flare, and are silhouetted.

c. It must be sited so that the smoke does not obscure the killing ground.

d. The flare should be at waist height from the ground for best effect. The best method is to lash it to the reverse side of a tree, if available, or on a stake behind a rock. This will prevent dazzle.

e. The flare must be camouflaged.

Cluster of Three Flares

10132. This is one of the improvised methods of using trip flares and may only be used on operations. Three flare pickets are bound together below the brackets which hold the pots and the pots are then placed on the brackets in the normal way. The three posts must be bound together with tape, etc., until they are secure. The stakes are driven into the ground in the required position.

10133. ***Characteristics.*** As for the trip flare, except the light is thrown to a range of about 60 metres.

10134. ***Method of Ignition (Electrical).*** A piece of detonating cord, approximately 125 millimetres long is bent into a horse shoe shape so that it covers the centres of the lids of the three pots. These lids must not be removed or pierced. The cord is then taped so that it is in firm contact with the lids and an electric detonator is taped to the ends of the cord. Unless the cord is touching the lids, the detonation will not ignite the pots.

10135. ***Siting.*** As for a single flare.

RAF Ground Marker Flare

10136. The flare is a cylinder 0.46 metres (18 inches) long, with a spike at one end for positioning, and a screw cap at the other. It is painted black with yellow lettering.

10137. ***Characteristics.***

a. It throws a brilliant and steady light to a distance of approximately 75 to 100 metres.

b. The light lasts for three minutes.

c. It weighs about 0.90 kg.

10138. ***Method of Ignition (Electrical).*** (Only to be used on operations). Remove the rubber washer from beneath the screwcap and screw the cap back on, a quarter turn only. Tape an electric detonator to the top of the cap and ignite as with a trip flare.

10139. ***Siting.*** As for a trip flare.

Projected Illuminants

10140. Illuminants can be provided by artillery, mortars, MAW, light mortar, 1 inch VERY pistol and 1½ inch flare (SCHERMULY). None of these illuminants are very suitable for the springing of the ambush as:

a. There is a delay factor between shot and light.

b. The light throws a moving shadow and does not assist accurate shooting.

10141. The gun and medium mortar fired illuminants are useful for giving light for:

a. The search.

b. Blocking the counter attack.

c. Evacuation.

10142. The light mortar, VERY pistol and 1½ inch flare do not give as good a light as gun fired illuminants but have the advantage that the ambush commander can fire his illuminant where and when he wants it and does not have to rely on a radio link to control his light.

When to Ignite?

10143. If an ambush commander springs the ambush by igniting a flare, there is a risk that the firers will be too dazzled to aim straight. It is better to use natural light, if possible, for the first shot and to ignite the flares about two or three seconds later.

The CLAYMORE Mine

10144. This mine, when available, takes over the role of grenade necklace and anti-personnel mines. It greatly increases the fire power of cut-off

groups in all types of ambushes and is invaluable for protecting the flanks and rear of ambushes, and for breaking up the enemy counter attack. It is an extremely useful weapon to site in the killing ground as three or four mines will ensure that the whole killing ground can be swept with fire as soon as the first shot is fired. It must be remembered that the mine has considerable back blast and, once sited, cannot be realigned should the enemy approach from an unexpected direction. Careful use of CLAYMORE mines means that fewer men than before are required in the ambush position and this will enable a unit to patrol more frequently or set more ambushes than before. A highly trained patrol could inflict many casualties by springing an explosive ambush of 12 or more CLAYMORES, covering 200 to 300 metres of killing ground, having been warned of the enemy's approach and presence in the killing ground by electronic aids.

10145–10150. *Reserved.*

SECTION 80—TANK AMBUSH

10151. Platoons will on occasions be detailed to carry out tank ambushing tasks. The method adopted can be:

a. Patrol.

b. Ambush.

c. A combination of **a.** and **b.**

10152. The following principles will apply:

a. *Surprise.* Surprise can be achieved by:

(1) Obtaining reliable information rapidly.

(2) Careful planning.

(3) Detailed preparation.

(4) Good knowledge of tactics and techniques of enemy tanks and AFVs.

b. *Co-ordinated Fire Plan.* Weapons, which may include mines and demolitions, must be sited to achieve:

(1) Temporary isolation of the killing zone.

(2) Restriction in crew vision by forcing tanks to close down.

(3) Separation of tanks and supporting infantry.

(4) Surprise delivery of accurate fire against the tank.

(5) Protection and concealment from being sited in defiladed positions.

c. *Control.* Effective control is essential for any patrol or ambush party and must include:

(1) Early warning of the approach of a target or the location of a target.

(2) Positive identification of the target as enemy.

(3) Fire control until the target is in the killing zone.

(4) Opening fire at the correct time.

(5) Immediate action drill if enemy is unsuitable to engage, or if the ambush has been detected.

(6) A simple plan of withdrawal from an ambush position.

(7) Radio communications.

Factors

10153. Factors to be considered in planning are:

a. *Suitability of Ground.* Close country and cover will reduce the effectiveness of the tank's main armament and limit its mobility.

b. *Weather.* Bad visibility is advantageous to ambushes.

c. *Darkness.* With the introduction of radar and image intensification devices the advantages of darkness to the ambush are considerably reduced but skilful use of ground and cover will offset this.

d. *The Weaknesses of Tanks.* These must be realized and exploited; they are:

(1) Restricted vision when closed down.

(2) Limited depression of main armament. A tank is particularly vulnerable when crossing a ridge.

(3) The lightly armoured areas of the tank hull. The sides, rear and belly are generally less well protected than the front.

(4) Difficulties in protecting themselves when replenishing or at rest.

Composition of Tank Ambush Parties

10154. The composition of tank ambush parties will depend upon the number of weapons to be used for the particular task. The smaller the number of men the less will be problems of control.

Weapons

10155. In addition to the platoon MAWs and LAWs a number of other devices may be used:

a. *Mines.*

b. *Phosphorus Grenades.* These are most effective in creating confusion, degrading enemy night vision devices and in causing burn injuries to dismounting crews. The use of smoke is particularly vital when, as will often happen, motor rifle troops in APCs form part of the column being ambushed.

c. *Timed Charges/MOLOTOV COCKTAILS.* These must be properly prepared beforehand to be effective. Thought should also be given to the means of totally destroying a partially disabled tank.

Night Action

10156. When tank ambush actions take place at night, the following points should be considered:

a. The individual weapon sight, fitted to the MAW, gives excellent results up to approximately 150 metres on the darkest night. This range improves substantially as the level of ambient light is increased.

b. The LAW and the MAW without an individual weapon sight require white light to achieve a kill at other than point blank range.

c. Flares should be positioned to silhouette the target, preferably at 12 o'clock from the firers. A careful calculation of the probable wind drift is necessary to avoid patrols being illuminated by their own flares.

d. It will seldom be possible to fire flares and anti-armour weapons from the same area. Ideally radio communications should be used between those firing flares and those firing LAW/MAW to ensure co-ordination.

Training

10157. Training for tank ambushing is covered in Part 1 Chapter 8.

10158–10160. *Reserved.*

SECTION 81—VEHICLE AMBUSH

10161. On occasions a platoon or section will be sited in an area which is entered by roads or tracks along which enemy tanks and vehicles might approach, and which are suited for an ambush. A permanent road block should be established which may consist of anti-tank mines or the road

cratered by the use of cratering charges or explosives placed in a culvert. When these are not available, it should be improvised from such materials as felled trees, rubble or destroyed vehicles.

10162. To avoid early detection, it may be necessary to create the road block as the ambush is sprung. This might be achieved by destroying the leading vehicle by anti-tank fire, command detonated or automatically detonated mines or an explosive device placed in a culvert.

10163. A permanent road block should be sited so that it is difficult for enemy drivers to :

a. See the obstacle until they are close to it. This is done by siting it round a corner or over the crest of a hill.

b. Turn their vehicle round.

c. Drive off the road and move across country.

Suitable sites are defiles, where the road passes between woods, large ditches, thick hedges, banks or buildings.

10164. Not all road blocks can be covered by fire. Those which are not should be booby trapped. When mines are used in the construction of a road block, whether manned or not, warning signs must be set up on the home side to prevent friendly troops being injured or killed.

10165. Ambush positions should be manned by at least one section. MAW and LAW should be sited where they can engage targets from a flank, with one weapon covering the road block. The GPMG should be sited so that it can bring enfilade fire onto the killing area. Riflemen should be sited to cover the MAW/LAW firers and to engage fleeting targets in the killing area. If available, CLAYMORE mines should be sited to cover the killing area and kill dismounting troops, or alternatively to protect the flanks of the ambush position. Fire should be brought down from different angles where possible (*see* Fig 43).

10166. Early warning of enemy approach should be given by separate OPs and standing patrols. In the killing area, the identification of vehicles as friendly or hostile, and the decision to spring the ambush must be made by the ambush commander.

10167. Before the vehicle or vehicles enter the ambush area, the signal to open fire must be known to all, and arcs of fire and responsibility carefully laid down. The withdrawal route must be known and rehearsed.

10168. As well as blocking the road at the top of the ambush, in order to prevent vehicles reversing out of the killing area, the road should be blocked behind the vehicles in the killing area. This may be achieved by destroying the rear vehicle.

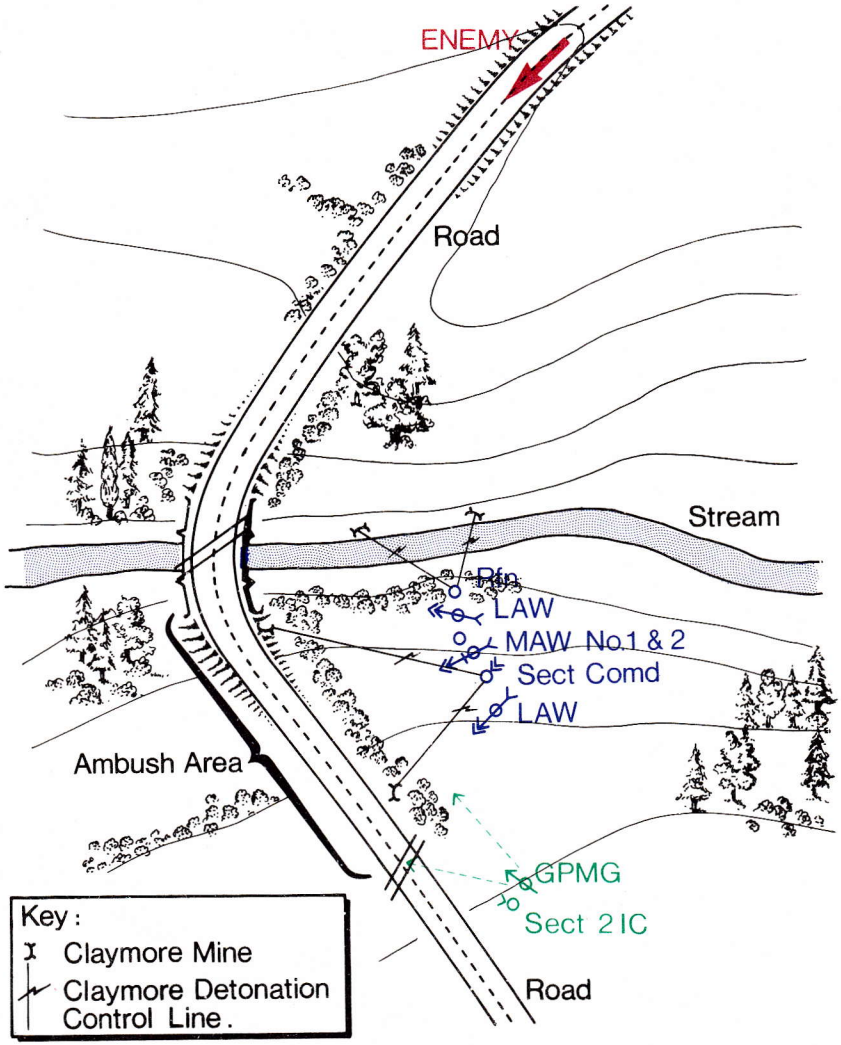


Fig 43.—A Section Vehicle Ambush

CHAPTER 11

PROTECTION

SECTION 82—GENERAL

1101. No unit or sub unit can be regarded as secure, unless it is protected from attack from any direction, including the air. Even when not in contact with the enemy and when other troops to the flanks appear to give security, companies and platoons can be attacked individually. They should, therefore, always be ready to fight and protect themselves from airborne assault, guerilla forces, enemy agents and saboteurs, as well as surprise nuclear or chemical attack.

1102. Every commander must take steps to safeguard his command against surprise attacks. He must conceal his dispositions from the enemy, and in the case of a nuclear or chemical threat, ensure that adequate protective measures are taken. NBC warfare is dealt with in detail in Chapter 12.

1103. Platoon and section commanders must always be alert to the threat of surprise attack. Anticipation and preparedness will reduce casualties to a minimum. In particular, they must ensure that their men :

a. Appreciate the threat.

b. Know what to do in various circumstances.

c. Know why they are doing it.

1104. Precautions must be continuous. Protection is very largely a matter of discipline with every man being constantly alert and inquisitive. An example must always be set by the commander.

1105. Where enemy ground action is possible, troops should always be armed and never move alone. When engaged in tasks, such as digging, which prevent them carrying arms, troops must keep their weapons within reach and a sentry or sentries always posted. Equipment, if not worn, must be placed nearby, assembled for immediate use. If there is a CW threat the NBC clothing and equipment must be worn and the respirator carried.

1106–1110. *Reserved.*

SECTION 83—PROTECTION AT REST

1111. Whenever troops are halted for any length of time or when in a rest area, they must be allotted tactical positions to be occupied in the event of an alarm. These positions are termed alarm posts and should be sited to meet a ground attack from any direction and give concealment from air observation. Everyone must know where his alarm post is situated by day and by night, and practice alarms must be carried out regularly to ensure this. If a wait of more than 30 minutes is envisaged, shell scrapes should be dug, and if more than one hour, fire trenches should be prepared.

Tactical Sentries

1112. Tactical sentries must always be posted for the local protection of any body of troops, to give early warning of enemy movement or attack and to check the identity of visitors or suspicious persons in the vicinity. They will always be posted to give all round protection. Particular attention must be paid to likely approaches.

1113. An officer or NCO must post the sentries and make sure they know and understand their orders. Sentries must be in contact with the officer or NCO on duty in their platoon HQ or section.

1114. The security of a force depends on the alertness of its sentries. They must be made to appreciate the great responsibility they have for their comrades' lives. Orders for sentries must therefore be carefully thought out so that nothing is omitted, left to chance or liable to be misunderstood. The orders must be given clearly. A section commander will normally brief his whole section at one time.

1115. All tactical sentries must know:

a. Where they must be whilst on duty; what is their 'post' or 'beat'.

b. The location of their immediate superiors and how to contact them.

c. By day, if posted forward of the main position, the route that they must take to return to the position.

d. The direction of the enemy.

e. What ground to watch.

f. The positions of flanking posts.

g. The names of landmarks to their front.

h. Details and positions of any intruder alarms or aids such as trip flares.

i. The procedure for challenging.

j. The password; and the time it changes.

k. The password for the next 24 hours if a change is due.

l. Orders for opening fire.

m. Particulars of friendly patrols in the area.

n. The signal for defensive fire. Sentries manning GPMGs laid on fixed lines must know the signal for them to open fire.

o. Times of mounting relief, and details of the relief system.

Challenging

1116. This paragraph, and paragraphs 1117–1119, implement Annex B to STANAG 2129. The standard challenging procedure must always be followed. Failure to do so may result in casualties being inflicted on our own troops, particularly returning patrols. The section commander will always be alerted if any unexpected person or group approaches the position and, if the situation warrants it, he will 'stand to' the section. The sentry will do the challenging. The challenge will be given quietly at a range that will enable the section to kill any enemy who tries to run away but not so close that the enemy could rush the post. If the order to halt is not obeyed, it is repeated and if still not obeyed, the orders for opening fire must be followed. The section commander must ensure that his whole arc remains covered and that all his men do not concentrate on one incident.

1117. The standard procedure for challenging and reply is:

Serial	Action by sentry	Action by person or group challenged
(*a*)	(*b*)	(*c*)
1	*"HALT! WHO IS (or GOES) THERE?"*	Halts and gives any reply which indicates the person or group is authorized to pass, e.g., *"FRIEND"*, *"ALLY"*, *"CORPORAL OF THE GUARD"*, etc.

(*a*)	(*b*)	(*c*)
2	*"ADVANCE (ONE) AND BE RECOGNIZED"*	One person (e.g., group leader) advances without replying.
3	*"HALT!"* (When the unknown person has approached sufficiently for sentry to recognize him or to give challenge).	Person halts until recognized by sentry.
4	Challenge (if any) is given in a low tone.	Reply or countersign is given in a low tone.
5	*"ADVANCE ANOTHER ONE* (or remainder) *AND BE RECOGNIZED"*. (Sentry calls forward remainder one by one or as a group, as the situation or his orders demand)	Second unknown (or remainder of group) advances at order of sentry to be recognized. Group leader, or person designated by leader must remain with sentry to assist in identifying remainder.

Passwords

1118. The password will always be in two parts; for example:

Challenge .. .. Plum or November
Countersign .. .. Pie Tango

The use of letters from the phonetic alphabet as challenge and countersign is an agreed NATO procedure, and may be used when forces of two or more nations are in the same formation.

1119. Passwords are changed daily at 1200 hours (local time or ZULU as ordered).

Length of Watches

1120. Watches may be as short as half an hour but should not exceed two hours. The shorter watch may be used when a platoon is working in extreme climatic conditions. A longer watch will be normal in completed positions to allow worthwhile rest between watches. When platoon sentries are found by sections in turn, sections should not change

responsibility too frequently or there may be confusion over reliefs. When the section responsibility does change, the relief must be supervised by the platoon commander or platoon sergeant.

Sentries in a Defensive Position

1121. The number of sentries normally required by a platoon occupying or preparing a defensive position is :

a. *Before Contact.*

(1) *By Day.* Normally one ground and one chemical/air sentry for the platoon but this is subject to local conditions and weather. If there is no CW threat one tactical/air sentry could suffice.

(2) *By Night.* Two tactical and one chemical/air sentry for the platoon. Reliefs of tactical sentries at night will be staggered to ensure that one is always fresher than the other. This method also ensures that the sight of at least one sentry is always well converted to night vision and night conditions, e.g., calls of animals, shape of trees and bushes, which can cause alarm to a new sentry.

b. *In Contact.*

(1) *By Day.* One tactical sentry for each section and one chemical/air sentry for the platoon.

(2) *By Night.* Two tactical sentries for each section and one chemical/air sentry for the platoon.

1122. There are two methods of organizing sentry duties by night. They are :

a. *First Method.*

(1) *Platoon HQ.*

(*a*) The platoon commander and his sergeant alternate throughout night. They may be on call and not necessarily awake.

(*b*) Security of HQ is the responsibility of one sentry who also mans the light mortar.

(*c*) A chemical sentry is found from one of the sections.

(2) *Section Posts.*

(*a*) Normal staggering of sentries, supervised and posted by section commander/2IC.

(*b*) Section commander/2IC are on call alternately, the duty NCO sleeping in the sentry trench.

b. *Second Method.*

(1) *Platoon HQ.*

(*a*) Watchkeeping duties are divided between the platoon commander, platoon sergeant and three section commanders.

(*b*) Security of the HQ is the responsibility of one sentry who also mans the light mortar.

(*c*) A chemical sentry is found from one of the sections.

(*d*) When not on duty, section commanders return to their own trenches.

(2) *Section Posts.*

(*a*) The section 2IC sleeps in the sentry trench, and is available immediately in emergency.

(*b*) Sentries post themselves as follows:

i. The finishing sentry awakes the section 2IC then awakes the relieving sentry and escorts him back to the sentry trench.

ii. The finishing sentry reports to the section 2IC and returns to his own trench.

(*c*) Not every man will have a watch, therefore it must be handed on throughout the night.

(3) *Alertness.* The duty watchkeeper at platoon HQ makes at least one tour of the position to check alertness during his watch.

c. *Advantages and Disadvantages.*

(1) The first method ensures alertness as sentries are posted hourly by NCOs.

(2) The platoon commander or sergeant is immediately available on the radio or telephone.

(3) The second method allows hard worked commanders to get more sleep but it places a great deal of trust on the men who may themselves be very tired.

The Section GPMG at Night

1123. At night one sentry must always man the section GPMG fitted with an IWS. If it is covering the front of another section, the second sentry must watch the section's own front. Strict orders must be issued about opening fire with the GPMG so that the position will not be prematurely disclosed.

Alarm Scheme

1124. If firing begins, or the alarm signal is given, every man should go to his alarm position. Thereafter there must be no further movement until stand down is ordered. This means that anyone moving during the period of the alarm is likely to be enemy. There must be no firing at night until the enemy is a certain target. They enemy may be trying to locate positions by deliberately causing the alarm to be raised.

Headquarters

1125. Sentries at all HQ should be sited tactically. When checking the identity of visitors sentries must be covered from another position.

1126–1130. *Reserved.*

SECTION 84—PROTECTION ON THE MOVE

1131. Platoons on the move must always be alert and ready to react instantly to enemy action. Discipline and foresight prevent unnecessary casualties.

1132. When a platoon is moving in areas where the enemy's location is unknown it may employ scouts in front and on the flanks. If speed is essential, scouts should not be used in front. It is the responsibility of every individual to observe and each will be allotted arcs of responsibility.

How Scouts Work

1133. Scouts work in pairs and move forward by bounds. When the place for the next bound has been selected, one of the pair chooses his route to it and moves forward as rapidly as possible, while the other observes and covers. When the first scout reaches his bound, he signals the other to come forward. This having been done, the process is repeated. The reasons for this procedure are :

a. The second scout is able to cover the advance of the leading scout with fire and to help him to withdraw if surprised by the enemy.

b. If the leading scout gets into difficulties, the other can inform the section commander in time for him to take action.

c. Sometimes dogs trained in the detection of ambushes may be available to move with the scouts.

1134. The aim of a scout is to see without being seen. He should use his rifle only in self defence or in defence of a comrade.

1135. Bounds selected should be points which give as good a view ahead as possible and are suitable for signalling back to the section. The distance ahead that scouts move depends on the nature of the country. A short distance in open country is useless unless the scouts are able to see more than the section commander. Section commanders must maintain strict control over the movement of their scouts. Should they wish to give fresh orders they must signal to their scouts to halt and then move up to them.

1136. Scouts may often locate gaps in the enemy's position and so enable the section to infiltrate between hostile posts.

Movement in Transport

1137. Bad transport movement discipline may cause delay and congestion in a whole column making it vulnerable to air attacks and shelling. Vehicles will normally move in packets of about four or five according to the size of sub-units. Each packet should be commanded by an officer, warrant officer or NCO with a commander detailed in each vehicle. Packets should travel at least a mile apart if possible to make them a less worthwhile target to enemy aircraft. They should also move as quickly as practicable for the same reason.

1138. The rules of road transport discipline are:

a. *Vehicle Commander.* The vehicle commander is the senior rank in it. He should be detailed before moving off and will be responsible for the conduct of the driver and other passengers. He must travel in a position from which he can see out of the vehicle in every direction including the rear. If he cannot see out of the rear, he must detail someone in the back of the vehicle to do this. The vehicle commander must follow the route on a map. If the vehicle in front is slavishly and automatically followed, part of the group may get lost. At unexpected halts, he must get out and go forward to find out the cause of the delay and rectify it if possible. If all vehicle commanders do this, the packet will not be halted behind one broken down vehicle or other casual obstruction.

b. *Density.* Density is the number of vehicles per mile or the interval which must be kept between vehicles. This will be laid down for any move in convoy to avoid vehicle bunching and also to prevent the column taking up too much road space.

c. *Speed.* The running speed laid down will be as fast as is thought safe and practicable. When in convoy, this will be the speed of the slowest vehicle. There may be a maximum speed which will usually be not more than about five mph greater than the running speed and must not be exceeded.

d. *Overtaking and Double Banking.* Overtaking and double banking must not be allowed except on the orders of the military police or of officers controlling traffic. Individual vehicles which have dropped behind must wait for the column or packet to halt before regaining their positions.

e. *Halts.* Times and duration of halts will be laid down for the move. Whenever possible, vehicles should move from hide to hide. These hides, such as woods, will be pre-selected from maps, air photographs or knowledge of the route. Ideally they should provide cover off the road for halted vehicles. They do not have to be any special distance apart. If hides are not available, vehicles should park clear of the road and be camouflaged. Every precaution must be taken at halts to conceal vehicles from air observation. Sentries must be posted and traffic control men detailed if necessary.

f. *Breakdown.* Vehicles which break down must be parked on the side of the road and display a yellow flag, to show other vehicles the cause of delay. If the breakdown is likely to be only temporary, a sentry must be posted on the opposite side of the road to act as a traffic policeman and wave on the rest of the convoy. If the breakdown is permanent and the vehicle blocks the road, it must be pushed clear even at the risk of further damage.

1139–1140. *Reserved.*

SECTION 85—COUNTER AMBUSH ACTION WHEN MOVING ON FOOT

1141. Any troops moving outside a secure area must be prepared to counter enemy ambush tactics. The obvious measure is to avoid being ambushed. This may be done by denying the enemy foreknowledge of our movements or by detecting the ambush.

Avoidance of Ambush

1142. To avoid ambush:

a. Routine movement must be reduced to a minimum.

b. Except in completely secure areas, roads and tracks should never be used if they can be avoided.

c. Security of impending operations and movement must be maintained until the last possible moment.

d. Plan and use deception whenever possible.

e. Maps, air photographs, patrol and other reports must be studied to find likely ambush sites.

Breaking out of an Ambush

1143. A force laying an ambush has the advantage of selection of site, initiative and surprise. The ambushed force is at a tactical disadvantage which can be minimized by good training and resolute action. The basis of the counter ambush battle is controlled offensive action.

1144. There is no hard and fast rule for breaking out of an ambush. There are, however, two essentials which are common to all counter action. These are :

a. Immediate offensive action must be taken to break out of the killing zone as rapidly as possible.

b. Commanders must retain control. Alternative arrangements for command must be made in case the commander is lost in the first contact.

1145. A drill particularly suited to close country and restricted enemy fields of fire is an immediate assault in one direction into the ambush. Such a drill must be planned and rehearsed prior to the action. The only orders, if any, required are *"Follow me"*, *"Charge"* or some other simple words to achieve an immediate reaction. Remember you may well be moving into more enemy forces in depth.

Action if Only Part of a Force is Ambushed

1146. The portion ambushed must take aggressive action to fight its way out of the immediate killing zone using fire and movement if necessary. This part of the force then forms a hasty defensive perimeter sited if possible to bring fire on to the ambushers. Obvious reorganization positions will always be suspect as the enemy may have laid mines or booby traps in the area.

1147. The remainder who are not caught in the actual ambush must do an immediate encircling attack against a flank. In so doing contact with enemy blocking parties can be anticipated. Full advantage should be taken of any available artillery or close air support. If, however, this would delay the mounting of the attack, its advantages should be carefully weighed against the requirements to relieve the ambushed force.

Action if the Whole of a Force is Ambushed

1148. The ambushed troops must take aggressive action to fight their way out of the immediate killing zone. The following courses are available :

a. Launch an immediate assault. This is dependent upon the degree of control retained in relation to the enemy's main strength and dispositions.

b. Form a hasty defensive perimeter whilst the commander decides whether to attack part of the ambush in order to break out, or whether his force will break down into small groups to filter out. In either case, the troops must reform at a pre-planned RV as soon as possible.

c. On occasions, during the immediate assault to break out of the killing zone, it may be possible to seize ground on which a reasonable defensive perimeter can be established. The aim would then be to hold this perimeter, to bring in close air support and/or artillery against the enemy position or to await the arrival of a mobile relief force probably brought in by helicopter. Such action will often force the withdrawal of the enemy ambush and has the advantage that it prevents our own wounded and equipment falling into enemy hands.

Counter Ambush by Night

1149. As night ambushes are difficult to arrange and co-ordinate they are likely to be on a small scale only.

1150. If platoons or sections are ambushed:

a. They must move out of the killing zone at once. This is especially important if the area has been illuminated.

b. They must fight their way from the ambush to the pre-planned RV.

c. Commanders must retain control. If lost it must be regained as soon as possible.

d. There can be no question of a flanking or encircling attack at night because of the difficulty of control and the degree of confusion that will exist in the ambush area.

Special Points for Counter Ambush

1151. The following points must be particularly remembered by commanders moving in areas where they are likely to be ambushed:

a. The enemy will aim in the opening volleys of an ambush to destroy commanders and radio operators in order to increase confusion. Commanders with their signallers must not be conspicious and must avoid moving to a set pattern within a column. The practice of commanders at all levels carrying a particular weapon, such as a sub-machine gun, is dangerous. Badges of rank should not be obvious. Signallers must be protected and unless the radio sets are being operated, aerials should be dismounted.

b. During movement, maximum dispersion commensurate with control must be practised. The aim must be to ensure that the whole of the force is not simultaneously ambushed. Too often troops are closed up, forming a 'crocodile', and thus making themselves vulnerable to a comparatively small ambush. This is particularly applicable to the rear of a column. The degree of dispersion practised is dependent upon the likelihood of enemy action.

c. Pre-planned RVs in the event of an ambush must be known to all ranks and, if possible, should be constant. Two suggestions for RVs are:

(1) A set distance (say 300 metres) from the rear of the column and back along the direction of approach. This is probably not suitable for forces larger than a platoon.

(2) The location of the last long halt.

1152–1155. *Reserved.*

SECTION 86—COUNTER AMBUSH ACTION WHEN TRAVELLING IN VEHICLES

1156. There are also occasions, when travelling in vehicles, where there is a threat of an ambush. This pamphlet does not cover counter revolutionary warfare operations where the threat is continuous and great but ambushes may well also occur on other operations and the drills shown in paragraphs 1162 and 1163 apply.

1157. Convoys will move in bounds and should be covered by artillery and possibly picquets. If helicopters are available they can be used to lift the picquets and maintain observation over the route.

Preparation of Vehicles

1158. Vehicles may well require special preparation for a move, particularly if there is a threat of mines. Preparation might include the following:

a. Sand bagging the floor of the vehicle.

b. Removing glass and doors.

c. Mineplating.

d. Removing the canopy and bars.

e. Fixing wire mesh over windows and the rear of the vehicle.

Command and Control

1159. The vehicle commander should not be next to the driver in the passenger seat but in the rear of the vehicle where he can see and command

his men. There should be at least one ground and one air sentry per vehicle with the air sentry using the GPMG in a mount if fitted and the ground sentry with rifle and HE and smoke grenades available for immediate action. Whenever possible passengers should sit back to back in the centre of the vehicle with weapons easily accessible.

Action on Contact

1160. The following action should be taken on contact:

a. Ambushed vehicles carry out the immediate action drill.

b. Rear packets will be stopped from entering the ambush.

c. The nearest ground commander will put in an immediate attack.

d. Artillery or air support may be called for once the target is identified.

1161. To ensure quick and accurate support the exact location at the moment of ambush must be known. The route must therefore be followed in detail by the packet commander to enable accurate information on his own and the enemy's location to be passed to the controlling HQ.

Immediate Action Drills

1162. The immediate action drill for a vehicle is:

a. The sentry returns fire immediately.

b. The vehicle commander makes a rapid decision whether to drive out or fight.

c. If it is to fight, then he must order "*Dismount*" and put in an attack.

d. As soon as he has time the vehicle commander must send a contact record.

Dismounting Drill

1163. Dismounting drill for troops in the vehicles is:

a. The vehicle commander shouts "*Dismount LEFT (or RIGHT)*" to indicate which side of the vehicle to muster.

b. Sentries open fire on the enemy and throw smoke grenades.

c. Troops debus and move to the indicated flank.

d. Sentries debus when troops are clear.

e. All prepare to put in a quick attack.

1164–1165. *Reserved.*

SECTION 87—PROTECTION AGAINST AIR ATTACK

1166. The chief means of obtaining protection against air attacks are:

a. Concealment.

b. Dispersion.

c. Self protection.

d. Early warning.

e. Prompt counter air action when attacked.

Concealment

1167. The best protection against air attack is concealment. Enemy aircraft are liable to attack any ground forces whose location has been discovered by ground or air reconnaissance by manned aircraft or drones using air photography or infra-red linescan. High priority must therefore be given to concealment at all times. Even the sighting of a few troops could lead to the disclosure of a whole unit otherwise well concealed.

1168. When moving on foot in open spaces, observe the following rules:

a. On a road or track when tactical deployment is not essential, sections should move dispersed in single file on one side.

b. Where practicable open fields should be skirted. Sections should move in single file along hedgerows rather than in the open. In wet or frosty conditions a few men moving across a field leave a plainly visible track which will reveal the route they have taken.

c. If movement has to take place across open ground, sections should move in an irregular formation, well dispersed.

d. In areas of soft sand in the desert or on beaches, movement should be along outcrops or harder sand or rock or on the water's edge.

1169. When at rest or establishing a defensive position out of contact with the enemy, observe the following points:

a. During temporary halts, men should rest dispersed under cover and vehicle camouflaged. If there is no cover, they should be well dispersed and lie down keeping still and not looking up when aircraft are overhead.

b. Track discipline must be maintained when a post is occupied in the open. The track plan laid down by the platoon commander must be understood and enforced. Rules for track discipline in the open are:

(1) Make full use of existing tracks.

(2) Do not cut corners.

(3) Keep new tracks to an absolute minimum.

(4) New tracks must blend into the background pattern, following hedges, areas of stone or rock, gullies and stream beds, under trees and along the edge of grassland and scrub.

(5) New tracks which cannot be fitted into the ground pattern must not stop at the position to which they lead, but be extended further to deceive the enemy.

c. Any spoil from trenches and latrines must be camouflaged or hidden under overhead cover. If necessary, it should be taken from the trenches and carried to the nearest cover as they are dug. Any spoil used for parapets or overhead cover on the trenches must be camouflaged, as must the bottom of an open trench.

d. Fire trenches should if possible be sited under cover or along some break in the pattern of the ground, that is, at the edge of a cultivated area or an area of low scrub or long grass. It may be difficult at times to find positions which also fulfil the primary requirements of a fire trench, but some compromise usually is possible. It is almost impossible to conceal a trench which is out in the open, away from any break in the ground pattern.

e. Fire trenches and shelters must be progressively camouflaged as they are constructed. The concealment of spoil is a continuous process. At no time should work cease until all camouflage is complete.

f. Work on a defensive position during the hours of daylight will depend on the air situation and the degree of enemy observation. Under adverse air conditions it may only be possible at night.

g. Shiny or light objects which will attract attention from the air must not be left lying about. Mess tins, mirrors, food containers, white underwear or towels must all be hidden. Men should not be allowed to remove their shirts unless there is no air, nuclear or CW threat.

h. Fires must not be lit where there is any possibility of the smoke or flame being apparent to air observation.

i. APC or vehicle engines that are warm should be shielded from above, preferably with a solid object such as an old door and not foliage, to defeat infra-red detectors. Ideally they should be hidden in or amongst buildings where there is a more favourable infra-red background.

Dispersion

1170. Dispersion is a most important requirement and is probably one of the most difficult measures to enforce even with well trained troops. In

open country, or anywhere where it does not prejudice control on the move or at rest, troops within the platoon must keep dispersed to:

a. Assist concealment.

b. Avoid presenting a worthwhile target.

c. Reduce casualties if the platoon is attacked from the air, shelled or mortared.

1171. Platoon and section commanders must appreciate that, when within enemy artillery or mortar range or under an air threat it is their responsibility to ensure dispersion of those under their command. Control must continue to be maintained throughout. Radio, hand signals and megaphones can all assist in this control. Concentrations for meals, rations, water, etc., must be carefully considered in the light of the threat. Only one rocket, shell or mortar bomb in or near a congested group can cause casualties out of all proportion to the expenditure of ammunition.

1172. Vehicle commanders of troop carrying vehicles moving by day must ensure that their drivers maintain the ordered interval. This will be about 100 metres if air attack is likely. An air sentry must be posted in each vehicle. In open areas, vehicles should be dispersed even wider. This applies to APCs moving across country as well as soft skinned vehicles on roads.

Cover

1173. During all halts of longer than two hours or when enemy air attack is expected, troops will dig shell scrapes. This should be the first task undertaken upon arriving in any area. When enemy air activity is intense and men may have to sleep in their trenches, a minimum of 0.45 metres (18 inches) of overhead cover will be necessary.

1174. Troops should know that:

a. Although anti-aircraft fire from small arms may show no obvious effect immediately, it may cause damage which will either cause the plane to crash on landing or make lengthy repairs necessary.

b. It is usually very difficult for aircrew to determine the exact source of small arms fire directed against them.

c. The use of tracer may help to put an attacking pilot off his aim when fired from a flank.

1175–1179. *Reserved.*

SECTION 88—HIDES, LEAGUERS AND HARBOURS

Definitions

1180. Hides, leaguers and harbours are locations used for the protection of mechanized forces.

1181. **a.** *Hide.* A concealed area in which a force waits before operations or before moving into battle positions.

b. *Leaguer.* A defended formation, sometimes concealed, adopted by a force for administrative convenience and protection. Leaguers may be 'close' with vehicles very near one another, or 'open' with vehicles well spaced out.

c. *Harbour.* An area well out of contact in which the emphasis is on administrative convenience, although protection and concealment will be maintained.

1182. Thus a hide is an area related to a specific task whereas a leaguer is merely a vehicle layout adopted for a short period. It is normally in the open since cover may prevent access to administrative vehicles. A harbour is a rest and preparation area well back from where action is expected. All must be defended.

Hides

1183. ***General.*** A hide related to a battle position refers more to tanks than to infantry. The latter will be more likely to be dug-in in a fixed position. However, hides are often used in the advance, with combat teams moving swiftly from hide to hide according to the situation.

1184. ***Allocation.*** The allocation of positions for hides will frequently be made by Brigade HQ, so unit and sub-unit commanders will not have great scope for initiative, except in the organization of the hides themselves.

1185. ***Siting.*** For defence, hides should be sited as close as possible to battle positions. The critical factor in selection is time taken to deploy, not the distance to be covered. Vehicles must be positioned so as to be able to move out of the hide quickly, and they must be able to do so by day or night.

1186. ***Size.*** A hide may contain anything from a single vehicle to a combat team. The more it contains the easier will be the load for sentries and radio watches.

1187. ***Concealment.*** This is all-important. The greatest danger of discovery is from the air, in particular from IR linescan. Therefore IR

emission must be minimized. Thick foliage forms a fair shield, but camouflage nets must be used in any case. Concealing vehicles in farm buildings or in a village will make IR 'hot spots' less identifiable.

1188. ***Engines.*** Unless a vehicle is completely inside a building all engines must be switched off as soon as possible. Radios should be on standby and generators and cookers only run at times laid down.

1189. ***Tracks.*** Track discipline must be strictly enforced and every effort made to erase all track marks. If necessary a plough should be used to cover all traces.

1190. ***Noise.*** This too must be cut out. Voices must be kept low, and the closing of hatches and doors, and other metallic sounds, muffled.

1191. ***Lights.*** These must not show at night. All hatches must be closed, optics shuttered and only red vehicle interior lights used.

1192. ***Protection.***

a. The three main dangers are from:

(1) Air attack.

(2) Artillery fire.

(3) Reconnaissance patrols.

b. An effective air attack may make it absolutely necessary to move, thus exposing vehicles further! BLOWPIPE will ease this problem.

c. Under artillery fire the safest place will be inside tanks and APCs. Sentries and soft-skin vehicle crews must have trenches dug.

d. Sentries must guard likely approaches. A defence scheme must be correctly organized. Vehicle machine guns can be given arcs. Remote handsets or intercom can be used to maintain control quietly. The main object will, of course, be to remain undiscovered.

e. If a hide is attacked the best reaction may well be to break out, move to an RV, and occupy another one, Alarm signals and break-out routes must be laid down. DF fire should be planned on likely enemy FUPs.

1193. ***Administration.*** Whenever possible replenishment should be carried out before entering a hide, to avoid unnecessary vehicle movement in the area. If this is not possible combat supplies will have to be carried from the echelon vehicles.

1194. ***Occupation.*** Hides must be reconnoitred and cleared before moving in. An RV must be arranged for stragglers. Signs should not be used.

Leaguers

1195. ***General.*** A leaguer is not a tactical grouping. It is a parking method for administrative convenience. Some concealment may be afforded, especially at night, by using a hollow. A leaguer may be either a box or a circle.

1196. ***Occupation.***

a. Men or marked lights are essential for guiding in.

b. All turning must be completed before entering the leaguer area or lines will not be straight.

c. All guns/machine guns point outwards.

d. All antennas are lowered.

e. There must be sufficient space for echelon vehicles to draw alongside, and for nearby vehicles to break away should another catch fire.

f. If joining an armoured squadron's leaguer APCs may be placed in or even inside the box or circle.

g. A circular leaguer may be formed either by the entering vehicles following a guide vehicle, or by circling a centre point or light.

1197. ***Variations.*** Vehicles may also be parked around a field, under thick hedges or along the edge of a wood. While giving concealment this method does make defence more difficult.

1198. ***Occupation.*** The measures taken to protect the leaguer will depend on the length of time it is to be occupied, and on the enemy situation. Clear orders must be given as to exactly what precautions are to be taken.

1199. ***Breakout.*** The only practical method is a 'bomb burst' breakout to a pre-arranged RV. The echelon vehicles could be lost if a replenishment were in progress during an attack on the leaguer.

Harbours

11100. ***General.*** Many of the principles applied to hides and leaguers also apply to harbours.

11101–11105. *Reserved.*

SECTION 89—PROTECTION AGAINST CHEMICAL ATTACK

11106. Because they are comparatively cheap to produce and easy to deliver chemical weapons may be used against us in any theatre of operations. However, the greatest threat is to those troops deployed in the NATO area. This section deals only with the warning system in so far as it affects the platoon. The effect of CW on tactics is covered in Chapter 12.

Detection

11107. Chemical agents will be delivered in liquid, aerosol or vapour form. They may be delivered by shell, rocket, bomblet or aerial spray and as their effectiveness is considerably reduced by good defensive measures, the enemy will try to cause the maximum casualties by making a surprise attack. In the case of the most toxic agents, there will be only a very few seconds in which warning must be given and protective measures taken.

11108. Many chemical agents are colourless and odourless and are therefore at present virtually impossible to detect until casualties start to occur. The warning system must take this into account.

Personal Protection

11109. Every man has personal NBC protective clothing and equipment in the form of his NBC suit, overboots, gloves and S6 respirator. Where there is an imminent chemical threat the NBC clothing and equipment must be worn at all times and the respirator carried in its haversack on the front of the body and readily accessible. The order to take protective measures will be issued by the force commander. The donning of the respirator will be a matter for the individual, acting on the chemical warning rule, or section and platoon commanders on receiving a predicted warning of a vapour hazard. Full details of personal protection are contained in the pamphlet Nuclear, Biological and Chemical Defence Training, Pamphlet No. 5 (Army Code No. 70273).

Warnings and Alarms

11110. Warning of a chemical attack will be received by the platoon over the radio or verbally from battle group HQ or combat team HQ. The message will be either a warning of an immediate CW agent hazard or, if the unit is some way downwind from a detected attack, the warning will be to "*Mask up by . . . hours*" which is the time the vapour cloud is due to arrive, including safety factor of about 100 per cent.

11111. Alarms are given for chemical attacks in accordance with the Chemical Safety Rule. The chemical sentry or any member of the platoon may give the alarm. The alarm can be given over the radio from a chemical sentry in the form of "*Gas, Gas, Gas*" or by the sentry or other member of the platoon shouting "*Gas, Gas, Gas*" or banging together two metal objects such as mess tins. The chemical sentry's radio should be on the combat team net. Short blasts on a whistle or vehicle horn can be used as an alarm signal. The all clear is given by the platoon commander by voice or with long blasts on a whistle or vehicle horn. When NAIAD is issued the alarm is given by NAIAD. The cessation of the NAIAD alarm does NOT indicate the all clear.

11112. Every individual in the platoon must give the alarm signal should he know or suspect that an attack has occurred. This is the application of THE CHEMICAL SAFETY RULE, which is as follows:

THE CHEMICAL SAFETY RULE

If you:

a. Are subjected to hostile bombardment.

b. Sight hostile or unknown low flying aircraft.

c. Observe suspicious mist, smoke, smells, droplets, splashes, or symptoms in yourself, or another man.

d. Hear the Gas Alarm.

then you must

COMPLETE THE CHEMICAL IMMEDIATE ACTION DRILL, AND SOUND THE ALARM

The Chemical Immediate Action Drill

11113. The chemical IA drill is shown in the table below:

Serial	Action	Explanation
(*a*)	(*b*)	(*c*)
1	Stop breathing and close the eyes. Remove spectacles if worn.	It is imperative that breathing is stopped immediately there is suspicion of an attack. Avoid taking an extra breath before masking up.

(a)	*(b)*	*(c)*
2	Put on the respirator (back to the wind), lean forward and bend the head downward, blow hard and shout "*Gas, Gas, Gas*". Open the eyes and start breathing.	**a.** The respirator should be put on in 10 seconds. **b.** Leaning forward reduces the amount of a liquid agent received on the face or the inside of the respirator facepiece. **c.** Shouting "*Gas, Gas, Gas*" will warn others and help to expel any vapour that may be trapped in the respirator facepiece.
3	Decontaminate the hands and put on NBC gloves. If in the open, hands and wrists should be decontaminated under cover. Check the correct adjustment of the hood and all NBC clothing and equipment.	Gloves should be worn until any liquid stops falling or until any vapour is confirmed to be other than blister.
4	Check your detector paper and look for any other indication of a liquid attack.	Check the detector paper on your NBC suit and nearby equipment. Watch others for their reaction, your personal detector may have been shielded in some way.

11114. After a liquid attack has taken place, and when freshly exposed detector paper remains unspotted, the Immediate Decontamination drill should be carried out by everyone at the first opportunity.

11115. One of the most difficult problems is warning men working in noisy places, e.g., a command vehicle or near active guns, mortars, etc., or sleeping, that an attack is imminent or has started. A sentry must be detailed off to warn them. The duties of a chemical sentry are given in Annex K, paragraphs 14–17.

Unmasking Drill

11116. No one will unmask until ordered by his platoon commander who will have supervised a test with Residual Vapour Dector (RVD) and a sniff test.

11117–11120. *Reserved.*

SECTION 90—PROTECTION AGAINST NUCLEAR ATTACK

11121. The power of a nuclear weapon is expressed in terms of its equivalent in high explosives. A five kiloton (5KT) weapon has an explosive power equivalent to 5000 tons of TNT, while a five megaton (5MT) weapon has a power equivalent to 5 000 000 tons of TNT.

11122. When a conventional high explosive weapon detonates, three things cause damage, heat, blast and fragments. In a nuclear explosion heat and blast are intensified, and there are two more dangerous effects, flash and nuclear radiation.

11123. In this section, the three effects of a nuclear explosion, namely, blast, nuclear radiation, thermal radiation, and the protective measures taken to reduce their effects to a minimum, are considered.

Blast

11124. Blast takes the form of a severe pressure wave, accompanied by very strong winds. It pushes over light buildings, tears limbs off trees and lifts and hurls equipment and debris for considerable distances. The human body is able to withstand quite high direct blast pressure, and casualties from this will be negligible, unless men are very close to the explosion where other effects are more important. More casualties will be caused by the secondary effects of blast, such as men being hurled to the ground or against solid objects, or being struck by flying or falling debris. These effects will extend over considerable distances.

11125. Protection is gained by taking cover in a fire trench, ditch or depression, or if no such cover is available, by lying on the ground. The sides of buildings and vehicles should be avoided and in woods, falling trees and broken branches will be a danger.

Nuclear Radiation

11126. Immediate radiation is emitted for up to one minute after the moment of explosion. It is most dangerous during the first second of the

explosion when about 75 per cent of its effect is delivered. It penetrates heavy materials but with considerably reduced effect. Sufficient doses will produce nausea and vomiting and heavy doses will eventually cause death. The effects are not immediately apparent and vomiting may not occur for several hours. Following the initial vomiting there is often a period of several days during which affected troops are quite fit to fight.

11127. Protection is gained by taking cover immediately, and exposing as little of the body as possible. A fire trench with 0.45 metres (18 inches) of packed earth overhead protection, gives the best practicable cover. Immediate radiation has a scattering effect which means the rays travel in all directions. Therefore, to gain full cover from an air burst overhead protection is essential. An open fire trench, however deep, does not afford sufficient cover. A trench with 0.45 metres (18 inches) of overhead cover offers 25 times more protection from radiation than an APC does.

11128. Residual nuclear radiation occurs in addition to immediate radiation, when a nuclear weapon is exploded close to or on the ground. It is emitted by contaminated earth, water, dust, or other materials thrown up by the explosion. Particles of debris are carried away by the wind and are known as fallout when they come to ground. The effects of residual radiation are not comparable in range or intensity to immediate radiation, but continue to exist with diminishing intensity for months and in some cases years.

11129. Protection is achieved by:

a. Avoiding badly contaminated areas.

b. Covering exposed parts of the body.

c. Early cleansing of clothing by brushing.

d. Avoiding infection through open cuts or wounds.

e. Avoiding inhalation or ingestion of contaminated dirt.

f. Using dosimeters to establish the cumulative dose received by individuals, so that they may guard against a critical dose.

Thermal Radiation

11130. ***Flash.*** When a nuclear weapon is exploded, a blinding flash many times more brilliant than the sun occurs. This flash may cause temporary blindness, lasting from a few seconds up to several hours, or even permanent damage to the eyes. The effects last longer if the explosion is viewed directly, or at night, when the contrast is greater. Flash blindness under certain circumstances, will be of tactical importance, as an affected man cannot see to shoot, drive or even to walk about.

11131. ***Protection.*** Protection against flash is gained by closing the eyes and looking away on seeing, or sensing, the flash or on receiving warning that friendly forces are about to use a nuclear weapon.

11132. ***Heat.*** Intense heat rays are emitted for several seconds after a nuclear explosion. These travel in straight lines for a considerable distance from the point of burst, at the speed of light. Troops will receive moderate to severe burns on exposed flesh, depending on how close they are to the explosion. The range of the heat rays increases if the bomb is exploded in the air.

11133. ***Protection.*** Protection is gained by a minimum of body surface being exposed to the direction of the burst. Clothing itself provides satisfactory protection and the shielding effect of a tree canopy and other foliage reduces much of the heat effect. Full NBC protective clothing and equipment will be worn under a nuclear or thermal threat.

Platoon and Section Commander's Responsibilities

11134. The platoon and section commander's responsibilities for protection against nuclear attack include:

a. To learn the characterisitics and effects of nuclear weapons and ensure that their troops understand what to expect and how protection is best gained.

b. Practice in concealment.

c. To ensure that proper shelters are constructed where possible. In a defensive position the operational fire trench with at least 0.45 metres (18 inches) of packed earth cover, flush with the ground, gives the best practicable protection.

d. To maintain records, as laid down in unit standing orders, of radiation doses received by members of the platoon.

e. To ensure that when their troops are to remain in a contaminated area:

(1) They remain under cover for as long as the tactical situation permits, or until orders are received to the contrary.

(2) Movement is limited to reduce the dust hazard.

(3) Respirators are worn in particularly dusty areas.

f. To supervise personal cleansing of members of the section and platoon on leaving a contaminated area. This may be carried out under unit arrangements, at a cleansing station.

11135. If a nuclear weapon explodes in or near a unit area there will be confusion, shock and a possible drop in morale. Therefore, the need for

leadership and control at all levels is of paramount importance at this time.

Individual Protection

11136. Immediately on seeing or sensing the flash, troops must fall flat on the ground, face downwards, with the head away from the source, hands under the body and eyes closed, until the explosion is heard. This action must be instantaneous. There is not time to dart for cover, as it is the first second that counts. Troops in trenches do exactly the same. This action will give some protection against all effects of the explosion.

11137. ***Personal Decontamination.*** Personal decontamination will be necessary if individuals have been in a contaminated area or in contact with contaminated equipment. A contaminated person will have radioactive particles in the form of dust, mud or other substance clinging to his clothing and equipment. Because radioactivity cannot be destroyed the contamination must be removed. This is done by vigourously brushing, wiping, dusting and shaking clothing and equipment. This action should be carried out in the open and away from others or equipment. Monitoring with radiac instruments will then be necessary to show if any further decontamination is required such as changing the clothing, washing, etc.

General Protection

11138. The following are general protective precautions which should be taken :

a. *In a Defensive Position.* Shelters must be available for all troops in a completed position to give good protection, at reasonable ranges, from all effects of a nuclear explosion. In cases where there has not been enough time to build shelters, a thermal shield can be improvised from a ground sheet, camouflage net, individual protection kit or other material. If placed over the fire trench, this gives some protection from the flash and heat effects of the explosion. The earth walls of the trench give some protection against blast and radiation. The thermal shield is a great casualty saver.

b. *During a Nuclear Alert.* All troops not engaged on other tasks such as sentries or patrols should remain under cover, preferably below ground, or in their APCs. Thus should an explosion occur in the area, the minimum of men will be exposed to its full effects.

c. *On the Move.* When passing through a contaminated area, respirators will be worn if conditions are dusty or a possibility of dust is anticipated. Monitoring teams using radiac instruments will test the radiation level.

11139–11140. *Reserved.*

SECTION 91—ALARM SIGNALS

11141. The alarm signals which will be used by a platoon are given below:

a. *Air Attack.* A series of short whistle blasts.

b. *All Clear.* A series of long whistle blasts.

c. *Chemical Attack.* "*Gas, Gas, Gas*" shouted. Metal objects banged together. Trench rattle (in UK only).

CHAPTER 12

NBC WARFARE

SECTION 92—EFFECT OF NUCLEAR WEAPONS ON TACTICS

1201. The nuclear threat makes any concentration of troops or equipment extremely vulnerable. Dispersion is the antidote and under nuclear conditions units will only concentrate to attack the enemy and then disperse immediately afterwards until such time as a further operation requires them to come together again.

1202. The enemy will be kept under careful surveillance in order to obtain information which will indicate his future intentions and also to detect immediately any concentration of his troops which would offer a worthwhile nuclear target, once the use of nuclear weapons is authorized.

1203. The dispersion of our forces increases the importance of mobility and efficient communications. It also requires a higher standard of training as small groups of men must be able to operate independently of their platoon or combat team. Every man must be mentally prepared for nuclear conditions so that the shock effect and lowering of morale are minimized when the enemy use nuclear weapons.

1204. At platoon and section level there are no fundamental changes to tactics. Where there are changes in the different phases of war these have been described in the relevant chapters. The changes have more often been the result of being mechanized than due to a direct nuclear threat.

1205. The knowledge and skills associated with nuclear warfare which must be mastered at platoon level are given below :

a. *Platoon Commander and Sergeant.*

(1) A sound general knowledge of nuclear defence and the tactical implications of nuclear warfare.

(2) Some knowledge of the offensive use of nuclear weapons.

(3) The organization of a unit monitoring post and radiological survey party.

(4) Radiation dose control and the use of the radiac calculator and doserate time graphs.

(5) The principles and techniques of decontamination, reconnaissance and operating in a nuclear environment.

b. *Junior NCOs.*

(1) The knowledge and skills required of trained soldiers.

(2) Command of a unit monitoring post and radiological survey party.

(3) Supervision of radioactive decontamination.

c. *Trained Soldiers.*

(1) A good understanding of the characterisitics and effects of nuclear weapons and the defensive measures necessary against them.

(2) The duties of a nuclear OP and a member of a radiological survey party.

(3) Radioactive decontamination.

(4) Precautions to be observed when operating in a radioactive environment.

(5) Recognition of standard signs indicating radiologically contaminated areas.

1206. The pamphlets which deal with these subjects are NBC Defence Training Pamphlet (Army Code No. 70273 (Pamphlets 2, 3, 4, 5, 7 and 8)) :

a. No. 2, The Effects of NBC Attack.

b. No. 3, NBC Defence Equipment.

c. No. 4, Radiac Instruments.

d. No. 5, Personal Protection and Decontamination.

e. No. 7, The Organization of Unit NBC Defence.

f. No. 8, Training and Training Equipment.

1207–1210. *Reserved.*

SECTION 93—EFFECT OF CHEMICAL WEAPONS ON TACTICS

1211. The use of chemical weapons by either side does not alter basic tactics. However, their use—or threat of it—tends, because one is forced to wear restricting NBC protective clothing and equipments, to lower efficiency and slow down reaction. The problems caused by the need to carry out decontamination after any attack with a persistent agent are considerable but this is a command problem rather than a tactical one.

1212. At platoon and section level the problems caused by chemical warfare can mainly be overcome by good leadership and organization by the platoon commander. Providing the warning system is working properly the casualties caused by a chemical strike should be small. The problems which must be anticipated are:

a. The organization of sleeping in respirators and the warning of sleeping men in the event of an alarm.

b. The organization of personal and operational decontamination after an attack by an agent delivered in liquid or aerosol form. This attack may be co-ordinated with an attack by ground forces; if so, operational decontamination will have to be completed by half sections with the other half remaining on watch at their posts. Personal decontamination must be completed on an individual basis but with men working in pairs. Obviously, in the event of an immediate attack the risk of being shot may be greater than that from the agent, and the enemy must be dealt with first by those involved. It is more likely that non-persistent agents in vapour would be used in conjunction with a ground attack so this problem should not be overstated.

1213. The knowledge and skills associated with chemical warfare in addition to personal protection which must be mastered at platoon level are given below:

a. *Platoon Commander and Sergeant.*

(1) A sound general knowledge of chemical defence and the tactical implications of chemical warfare.

(2) Some knowledge of the offensive use of chemical weapons.

(3) The organization of a chemical reconnaissance team.

(4) The principles and techniques of contamination control and operating in a chemical environment.

(5) Supervision of the use, care and maintenance of NBC clothing and equipment.

b. *Junior NCOs.*

(1) The knowledge and skills required of trained soldiers.

(2) Command of a chemical reconnaissance party.

(3) Supervision of chemical decontamination.

(4) Supervision of the use, care and maintenance of NBC clothing and equipment.

c. *Trained Soldiers.*

(1) A good understanding of the characterisitics and effects of the main groups of chemical agents and the defensive measures necessary against them.

(2) The duties of a chemical sentry and a member of a chemical reconnaissance party.

(3) The immediate treatment of chemical casualties.

(4) Individual and operational chemical decontamination.

(5) A knowledge of the precautions to be observed when operating in a chemical environment.

(6) The recognition of standard signs indicating chemically contaminated areas.

(7) Operate their personal weapons effectively while wearing respirators.

(8) Be trained in the use, care and operation of all NBC equipment with which they are issued.

(9) Be capable of operating in full protective clothing including respirators for periods up to 24 hours.

1214. The pamphlets which deal with these subjects are NBC Defence Training Pamphlet (Army Code No. 70273 (Pamphlets 2, 3, 5, 7 and 8)) (*see* paragraph 1206).

ANNEX A

FIELD SIGNALS

General

1. Signals used in the field and described in this annex are divided into three types:

   a. Section and platoon field signals.

   b. Helicopter marshalling signals.

   c. Hand signals used when operating with tanks, APCs and 'B' vehicles.

2. These are shown by a series of drawings in cartoon form.

Appendices

1. Section and platoon field signals.
2. Helicopter marshalling signals.
3. Hand signals for use with tanks, APCs and 'B' vehicles.

APPENDIX 1 to ANNEX A

SECTION AND PLATOON FIELD SIGNALS

1. Field signals give a means of conversing silently. They should be used whenever possible, and should be practised constantly. Before a signal is given the attention of the platoon or section must be attracted. There are four methods:

   a. Single whistle blast (during fire contact only).

   b. Snapping forefinger and thumb.

   c. Knocking rifle butt with knuckles.

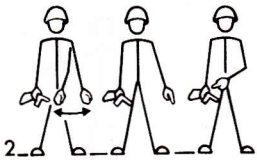
   d. Silent whistle.

2. Other whistle signals are:

   a. Short blasts: alarm (air attack/NBC attack, etc.).

   b. Long blasts: stand down.

READY TO MOVE. Move hand as if cranking car handle.



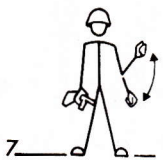
DEPLOY. Arm extended below shoulder level and waved slowly from side to side, hand open. If deployment to either flank is wanted, the commander points to the flank concerned, after completing the signal.

ADVANCE OR FOLLOW ME. Arm swung from rear to front below the shoulder.

HALT/REST. Arm raised until the hand is level with the shoulder. Indicate length of halt by fingers. Point to rest area.

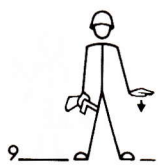
GO BACK OR TURN ROUND. Hand circled at hip height.

CLOSE OR JOIN ME. Hand placed on top of head, elbow square to the right or left, according to which hand is used. Point to RV.



DOUBLE. Clenched hand moved up and down between thigh and shoulder.

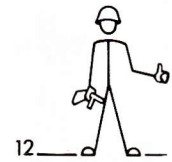
SLOW DOWN (APC). Arm extended to the side below the shoulder, palm downwards, moved slowly up and down, wrist loose.



LIE DOWN OR DISMOUNT (APC). Two or three slight movements with the open hand towards the ground (palm downwards).

AS YOU WERE, OR SWITCH OFF (APC). Forearm extended downwards, hand open, waved across the body parallel to the ground.

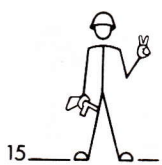
ENEMY SEEN OR SUSPECTED. Thumb pointed towards the ground from a clenched fist.



NO ENEMY IN SIGHT OR ALL CLEAR. Thumb pointed upwards from a clenched fist.

GUN GROUP. Clenched fist raised to shoulder height.

SCOUT GROUP. Clenched fist with forefinger upright.



RIFLE GROUP. 'Victory' sign— first and second fingers extended and open in V, remainder of fist clenched.

LIGHT MORTAR. Weapon held vertical. Imitate loading of rounds.

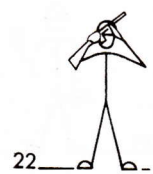
LAW/MAW. Weapon placed on shoulder and held like a LAW/MAW.

SECTION COMMANDER. Two opened fingers held against arm to indicate Corporal's stripes.

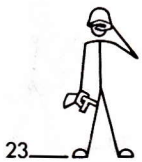
PLATOON COMMANDER. Two opened fingers held on shoulder to indicate a Lieutenant's stars.

GIVE COVERING FIRE. Weapon brought into aim.

OBSTACLES OR CROSSING OR TRACK JUNCTION. Arms crossed. For water obstacle make waves.



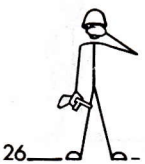
HOUSE OR HUT. Hands folded in inverted V to indicate shape of roof.



RECONNAISSANCE. Hand held to eye, as though using eye glass.

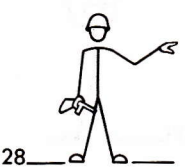
ATTACK. A chopping movement with edge of hand in direction attack is required.

MOVE UP. Fingers spread, arm swung slowly in direction movement is required.

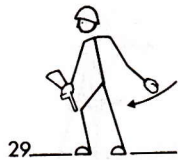


FORM AMBUSH. Hand placed over face, followed by pointing to place of ambush.

FREEZE AND LISTEN. Hand cupped to ear.



O GROUP. Fingers together, moved in conjunction with thumb to indicate person talking.

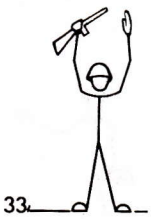


RIGHT/LEFT FLANKING. A curved sweeping movement of the arm in the direction concerned.

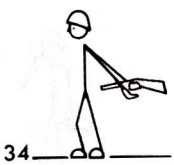
FIRE AND MANOEUVRE. One hand used in a rolling forward action in front of the body.

SPACE OUT. Palm of hands held against weapon and moved away several times.

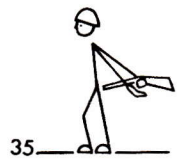
SINGLE FILE. One arm fully extended above the head.



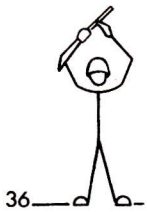
STAGGERED FILE. Both arms fully extended above the head.



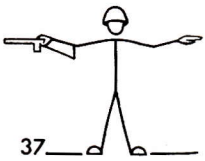
ARROWHEAD. Both arms forced backwards or forwards at an angle of 800 mils, depending on whether arrow is to the back or forward.



SPEARHEAD. As for arrowhead plus indicating gun group to move in at rear.



DIAMOND. Arms raised above the head with arms slightly bent so that hands touch to form a diamond shape.



EXTENDED LINE. Arms raised to the side level with the ground, indicate which side gun group is to go.

APPENDIX 2 to ANNEX A

HELICOPTER MARSHALLING SIGNALS

General

1. The hand signals used for the marshalling of helicopters are given below. Unless otherwise stated they conform to the signals laid down by STANAG 3117. Only those signals needed by marshallers for everyday use in the field are included.

2. The signals are the same where appropriate as those used for the marshalling of fixed wing aircraft.

3. Marshallers are to wear tightly fitting headgear or be bareheaded. The marshaller is to stand well away from and in front of the pilot where he can see the pilot and be seen throughout the manoeuvre. Where space is limited, for instance in a small clearing or on board ship, the marshaller may stand to the right side in front of the helicopter.

(**Note:** In most helicopters the pilot sits on the right, except in the SIOUX where he sits on the left.)

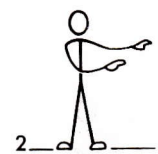
Daylight Aids

4. By day, signals are normally given with hands only, although pairs of brightly coloured bats or flags, other than red or green, are used if necessary.

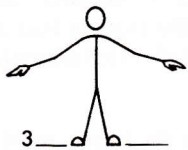
Night Aids

5. At night the same signals are used in conjunction with a pair of lighted white or amber wands.

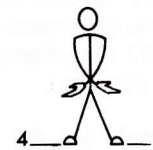
THIS MARSHALLER. Arms overhead in vertical position with palms facing inward.



LANDING DIRECTION. Having given the 'This Marshaller' signal the marshaller turns and faces towards point where aircraft is to land, extends both arms straight in front parallel to desired fore and aft axis of aircraft on landing. (Differs from STANAG 3117).



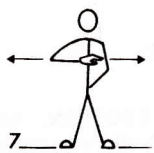
HOVER. Arms extended horizontally sideways, palms downwards (signal used to airborne helicopter when required to hold present position).



LAND. Arms crossed and extended downwards in front of the body.

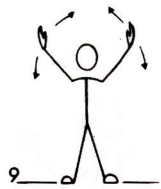
RELEASE LOAD. Left arm extended forward horizontally, fist clenched, right hand making horizontal slicing movement below the left fist, palm downwards.

LOAD HAS NOT RELEASED. Left arm outstretched, horizontally across chest; open right hand pointing up vertically to centre of left hand.

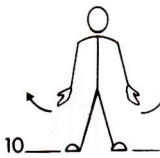


CUT ENGINE(S). Right hand, palm down, is moved from right to left across the body with arm extended.

AFFIRMATIVE. Hand raised, thumb up.



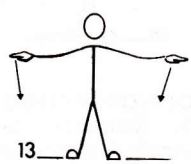
MOVE AHEAD. Arms a little aside, palms facing backwards and repeatedly moved upward-backward from shouder height.



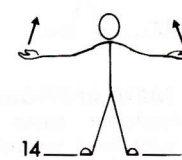
MOVE BACK. Arms by sides, palms facing forward and swept forward and upward repeatedly to shoulder height.

MOVE TO PORT (LEFT). Right arm extended horizontally sideways in direction of movement and other arm swung above head in same direction, in a repeating movement.

MOVE TO STARBOARD (RIGHT). Left arm extended horizontally sideways in direction of movement and other arm swung above head in same direction, in a repeating movement.

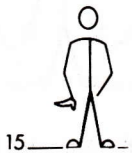


MOVE DOWNWARDS. Arms extended horizontally sideways beckoning downwards, with palm turned down. Speed of movement indicates rate of descent.



MOVE UPWARDS. Arms extended horizontally sideways beckoning upwards with palms turned up. Speed of movement indicates rate of ascent.

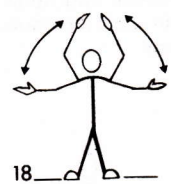
(Note: This signal is normally used to raise helicopters from the ground to the hover.)



NEGATIVE. Hand held out to one side below waist level, thumb (wand) turned downwards. (Differs slightly from STANAG.)

READY FOR TAKE-OFF. Pilot using right arm gives 'thumbs-up' signal.

HOOK-UP MEN APPROACH AIRCRAFT. Marshaller raises left arm above head with palm towards aircraft. Right arm is extended at shoulder height, palm downwards.



WAVE OFF/OVERSHOOT (MANDATORY). Marshaller waves outstretched arms from waist level to crossing overhead.

APPENDIX 3 to ANNEX A

HAND SIGNALS FOR USE WITH TANKS, APCs and 'B' VEHICLES

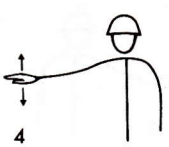
General

1. When vehicles are close enough and within sight of each other in daylight, hand signals should be used to acknowledge orders and pass simple movement instructions. This is in order to reduce radio traffic and thus leave the air as free as possible for the conduct of the battle, passage of information, detailed orders, etc. Hand signals can also be used during radio silence, when radio breaks down or there is jamming. The following are used by both tanks and APCs:

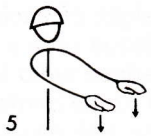
ADVANCE. Arm fully extended above the head and swung from rear to front.

SPEED UP. As for Advance but given on the move.

HALT. Arm raised to full extent above the head.



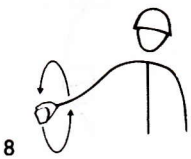
SLOW DOWN. Two or three movements with open hand towards the ground.



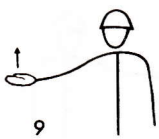
DISMOUNT. Two or three movements with the open hand towards the ground (two hands).

SUB UNIT COMMANDERS TO ME. The hand placed on top of the head.

ALL COMMANDERS TO ME. Both hands on top of head.

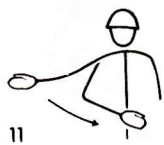


START UP. Circular movement of the hand as if turning a starting handle.



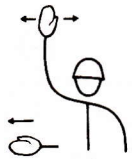
MOUNT. Two or three movements upwards with the open hand, palm uppermost.

TAKE UP POSITION OF OBSERVATION. Palm open and back of hand placed against forehead.



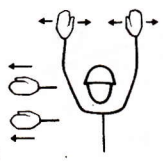
11

SWITCH OFF. One arm extended parallel to the ground with hand open and moved across the body.



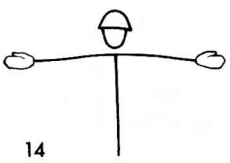
12

LINE AHEAD OR 'ONE UP'. Arm extended above the head and swung from side to side. Arm pointed at tank or APC required to lead.



13

'TWO UP'. Both hands extended above the head and swung from side to side. Point at the tanks or APC required to lead.

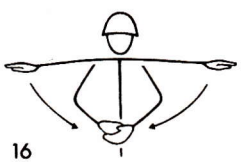


14

LINE. Both arms extended sideways parallel to the shoulder.

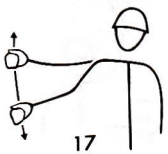
15

TURN ABOUT. Large circular movement of the arm above the head.



16

DO NOT CONFORM. Both hands extended parallel to the ground with palms open, moved across the body.



17

TAKE UP A FIRE POSITION. Clenched fist shaken in direction of position to be taken up.

18

RALLY. Both arms swung across each other above the head.

19

FOLLOW ME. Signal for 'line ahead' followed by commander pointing at his own APC or tank.

20

OPEN OUT Both arms move sideways from chest in a breast stroke manner.

21

ACKNOWLEDGEMENT OF SIGNALS
Both hands clapsed above the head and shaken.

CHARACTERISTICS OF SURVEILLANCE DEVICES

Note: All night-fighting aids are limited by such factors as weather, level of ambient light, size and speed of target and the skill of operators. Data quoted below, in particular ranges, is therefore subject to variation and is for training purposes.

1. ***White Light.***

Serial	Type	Candle Power	Range	Time of Burning	Weight	Remarks
(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)	(*g*)
1	1½″ Flare SCHERMULY	80 000	200-300 m	30 secs	0.37 kg (13 ozs)	Poor performance, launch signature. Primarily a training aid.
2	Lt Mor 2″ Illum Bomb	150 000	300 m	30 secs	0.68 kg (1.5 lbs)	51 mm Mor will have range of 800 m.
3	1″ Illum Cart (VERY)	150 000	150 m	7 secs	0.04 kg (1.5 ozs)	
4	81 mm Mor Illum Bomb	400 000	4050 m	40 secs	3.29 kg (7.25 lbs)	
5	Trip Flare	14 000	—	75 secs	0.68 kg (1.5 lbs)	

(a)	(b)	(c)	(d)	(e)	(f)	(g)
6	RAF Ground Flare	113 000	—	2¾ mins	1.25 kg (2.75 lbs)	
7	105 mm SP	750 000	17 350 m	30 secs	—	
8	Tank Searchlight	—	1500 m	—	—	
9	105 mm Lt Gun	750 000	17 350 m	30 secs	—	

2. ***Weapon Sights.***

Serial	Type	Range	Arc in Mils	Weight	Active/ Passive	Power Source	Scale	Remarks
(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)	(*g*)	(*h*)	(*i*)
1	Rifle Optic Sight (SUIT)	500 m	140	340 gm (12 ozs)	P	—	1 per SLR	For all inf wpns not fitted with IWS.
2	IR Wpns	150 m	150	5.90 kg (13 lbs)	A	Rechargeable	—	Obsolescent
3	II IWS	300 m men Large veh 500 m	180	2.72 kg (6 lbs)	P	Dry disposable bty	96 per bn	II Ranges given are for clear starlight.
4	II CSWS	1000 m (Static Tgts)	110	8.5 kg (19 lbs)	P	Dry disposable bty	1 per WOMBAT/ CONBAT	—
5	II NOD (B)	1200	150	15.88 kg (35 lbs)	P	Dry disposable bty	1 per coy 1 per MFC party	—

RESTRICTED

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
6	II NOD (A)	1500	—	—	P	Dry disposable bty	1 per FOO	—
7	II Wpn Sights for SCORPION SCIMITAR FOX	Tk: 1600 m Men: 600 m	—	—	P	—	1 per AFV	—
8	TI Wpn Sight for CHIEFTAIN	—	—	—	—	—	—	Not yet in service

3. ***Ground Surveillance (GS) Radar.***

Serial	Type	Range		Arc (Beam)	Weight	Scale	Remarks
		Men	Vehs				
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1	ZB 298 Radar	4000 m	6000 m	800 max (90 mils)	45.36 kg (100 lbs)	1 per FOO and in Comd pools	—

4. ***Intrusion Alarms.***

Serial	Type	Detection	Separation from Control	Weight (less wire)	Remarks
(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)
1	IRIS	200 m max (Distance between sensor and source)	800 m (D10)	10.89 kg (24 lbs)	4 Fences Wt excl cable
2	TOBIAS	50 m (Men) 300 m (Vehs) max	800 m (D 10)	8.62 kg (19 lbs)	4 Geophones Range depends on nature of soil. Wt excl cable

5. ***Driving Aids.*** Passive night driving periscope for AFVs. Long term scale is 1 per AFV incl APCs. Range 300m.

6. ***Binoculars.*** Issue binoculars give improved vision at night.

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COMPARISON OF BARBED WIRE OBSTACLES

Serial	Type of Fence	Height (to top of wire)	Pros	Cons	Remarks
(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)
1	'Low Wire'	Varying from 0.228 m to 0.7662 m	**a.** Quickly erected in woods or scrub, where as a rule pickets will not be required. **b.** More easily concealed or shielded than any other wire obstacle. **c.** Not easy to destroy or breach.	**a.** Not suitable for construction by drill. **b.** Depends mainly on concealment for its effectiveness. **c.** Being inconspicuous it may give little confidence to defenders. **d.** Not generally suitable for operational wiring.	**a.** Particularly suitable for use in wood or scrub. **b.** Stands up well against nuclear blast. **c.** Where made on short angle iron pickets, height cannot be more than 0.45 metres (18 inches).
2	Single Storey Concertina Fences (1-4 rows)	0.915 m	**a.** Quick and simple construction. **b.** Can be strengthened in stages by addition of rows. **c.** Low enough to be hidden in undergrowth in many positions. **d.** Suitable for operational wiring.	In less than 3 rows forms a weak obstacle and is easily bridged.	**a.** More likely to withstand nuclear blast than are multi-storey concertina fences. **b.** If long angle iron pickets. are used and driven to normal depth, their tops will be 0.45 metres (18 inches) above wire.
3	Apron Fences	1.016 m	**a.** Use ordinary barbed wire—which may be obtainable locally. **b.** A rigid type of fence and makes a good anchorage for loose wire or as framework for wide obstacles.	**a.** Construction especially at night needs a good deal of practice—otherwise it is slow. **b.** Easily penetrated by individuals in darkness. **c.** Easier to bridge than catwire Type 1.	**a.** In general apron fences are used only when concertina wire is not available. **b.** Height to top of pickets about 1.45 metres (4 feet 6 inches).

(a)	(b)	(c)	(d)	(e)	(f)
4	Triple Concertina	1.219 m to 1.676 m	**a.** Can be developed from a single storey concertina fence. **b.** Suitable for operational wiring.	**a.** Maybe difficult to conceal or shield. **b.** Fairly easy to bridge.	Unlikely to be suitable against nuclear weapons.
5	Catwire	1.676 m	**a.** Difficult to bridge—especially Type 3. **b.** Can be developed in stages. **c.** Rigid lengthways and therefore suitable for framework of wide obstacle, e.g., cellular pattern. **d.** Looks a formidable obstacle.	**a.** Difficult to conceal or shield. **b.** Types 2 and 3 expensive in stores. **c.** Not generally suitable for operational wiring.	Unlikely to be suitable against nuclear weapons.
6	'High Wire'	2.133 m	**a.** Difficult to bridge or penetrate. **b.** Looks a formidable obstacle.	**a.** Almost impossible to conceal. **b.** Cannot be constructed in stages. **c.** Unsuitable for operational wiring. **d.** Expensive in stores.	More suitable in policing operations and for perimeter defence of installations.

STORES NEEDED FOR STANDARD BARBED WIRE OBSTACLES

Serial	Type of Fence	Silhouette (metres)	Stores required per 100 m of fence						Construction time for 100 m of fence by 1 NCO and 10 men	
			Dannert Concertinas at 22.68 kg	Barbed Wire reels (120 m) at 12.70 kg	Long Pickets at 5.44 kg	Short Pickets at 1.81 kg	Total Wt in kg	Man Loads	Length of Fence (m) per 4 ton truck	Day / Night
(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*	*(h)*	*(i)*	*(j)*	*(k)* / *(l)*
1	'Low Wire'	0.228 to 0.766	–	15	–	200	533.38 Note 3.	44	450	2–2½ hrs / Impracticable
2	Single Concertina (normal) Note 1.	0.915	6	1	25	–	284.86	16	800	20–30 mins / 40–60 mins
3	Single Concertina (simplified)	0.915	6	1	13	–	206.84	12	800	5–10 mins / 15–20 mins
4	Triple Concertina	1.219 to 1.676	18	4	52	–	742.08	38	250	40–60 mins / 1½–2 hrs
5	Single Concertina (Type 4) Note 2.	0.915	24	2	76	–	1164.82	48	200	50–70 mins / 2–2½ hrs
6	Double Apron	1.016	–	13	40	82	531.61	36	450	1–1½ hrs / 1¾–2¼ hrs

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)
7	Catwire Type 1	1.676	12	6	64	–	696.72	37	300	40–45 mins	1–1¾ hrs
8	Catwire Type 2	1.676	24	9	96	–	1181.15	60	150	1¼–1½ hrs	1¾–2 hrs
9	Catwire Type 3	1.676	30	12	128	–	1529.51	77	100	1¾–2¼ hrs	2½–3 hrs
10	'High Wire'	2.133	24	19	80	84	1542.21	86	100	3–3½ hrs	Impracticable

Notes:

1. A single concertina fence is not by itself a standard obstacle, it is often used as a basis for development later.
2. Outer rows as for single concertinas (normal), inner rows as for single concertina (simplified).
3. Reduced by up to 362.87 kg if trees, bushes, etc., can be used instead of pickets.

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ANNEX E

MINE HANDLAYING DRILLS

DRILL C—
STANDARD ANTI-TANK MINE HANDLAYING DRILL

1. The standard drill to be used by the infantry for laying mines, and in particular the protective minefield, is Drill C. Although this drill is primarily designed for the Mark 7 mine, it may also be used for any other anti-tank or anti-personnel mine.

2. The drill is carried out with one officer and 24 soldiers organized in five parties. The detailed composition of parties is given in Appendix 1. The drill is shown diagrammatically in Appendix 2 (Fig 44).

3. ***Setting Out Party.*** The setting out party consists of the OIC minelaying and one soldier with a small vehicle to carry stores. They have the following tasks:

a. Select a marker and record its position.

b. Set out pickets to indicate the centre line of mine rows and relate them to the marker.

c. Record the number and types of mines laid when laying has finished.

4. ***Fencing Party.*** The fencing party consists of one NCO and two soldiers with a stores carrying vehicle. Plain wire or signal wire may be used instead of barbed wire. Maximum use is made of existing fences. They have the following tasks:

a. The NCO, with the vehicle keeping pace, paces out 15 m between pickets and drives them in with a sledge-hammer or 'thumper'. He also places minefield markers at least every 50 m and rolls of wire as they are required.

b. The first soldier holds the pickets for the NCO to drive in. He then reels out and fixes the lower strand of wire to the pickets.

c. The second soldier reels out and fixes the upper strand of wire to the pickets. He also fixes the minefield markers to the upper strand.

5. ***Positioning Party.*** The positioning party consists of one NCO and four soldiers, including a driver with a vehicle, to carry the mines. This party is used to obviate the difficulty of the digging party carrying a mine,

weapon and digging tools in the minefield. It is therefore more efficient and safer. They proceed as follows:

a. The NCO lines up the mine carrying vehicle approximately 2 m from the row marker on the home side. As laying commences, a soldier in the rear of the vehicle passes out the mines one at a time to each of the two mine positioning soldiers. He also records the mines issued. If anti-personnel mines are to be laid as well then these are given out at the same time. Each of the two mine positioning soldiers should be given a satchel to carry the anti-personnel mines.

b. The mines are to be laid 7 paces apart (5.5 m). The NCO moves along the row centre line stopping at the end of every 7 paces. A mine positioning soldier then places an anti-tank mine at the heels of the NCO, and places the required number of anti-personnel mines beside it. On seeing or feeling this happen, the NCO then moves another 7 paces along the row centre line. The mine vehicle is driven slowly, parallel to the centre line on the home side, with the NCO always in the driver's view. The NCO is responsible for maintaining direction.

6. ***Digging Party.*** The digging party consists of one NCO and 7 soldiers equipped with suitable digging tools, who follow the positioning party along the home side of the centre line. The NCO indicates a mine to be buried to each soldier and supervises the operation. The mines are dug in, but left exposed. Once a man has completed digging in a mine he moves along the home side of the row to the next mine and repeats the process. Anti-personnel mines, if being used, are left unarmed on top of the anti-tank mine at this stage.

7. ***Camouflage and Arming Party.*** This party consists of the minefield laying party 2IC and three soldiers, plus a driver with a small vehicle to hold pickets and personal weapons. If mines are to be surface laid, the digging party is deleted and the arming party increased by two. Each man carries a mine cap spanner and operates as follows:

a. The NCO directs the men to the first three mines in the row and supervises the arming, covering, camouflaging and also laying of anti-personnel mines. The vehicle moves just ahead of the arming party. The NCO is responsible for collecting pickets, fuse clips and all evidence of minelaying activity. If anti-personnel mines are laid, they should be armed last, so that no one has to pass an armed mine.

b. Extreme care must be taken when the men move past one another to deal with other mines in the row. They must work in unison and remain at their mine until the NCO instructs them to move on. Anti-personnel mines must be armed personally by the NCO in charge. This is particularly important at night.

STANDARD ANTI-TANK MINE HANDLAYING DRILL (DRILL C)—COMPOSITION OF PARTIES

Serial	Party	Personnel				Tools and Equipment	
		Offrs	NCOs	Sldrs	Vehs and Dvrs		
(a)	*(b)*	*(c)*	*(d)*	*(e)*	*(f)*	*(g)*	
1	Setting-out and recording	1	—	1	1 × ¾ ton Landrover and 1 dvr	Compass Pickets Lamps Sledgehammer	1 As required As required As required
2	Perimeter fencing	—	1	2	1 × ¾ ton Landrover or 1 × 4 ton and 1 dvr	Wire Pickets Minefield markers Sledgehammer Wiring gloves Pair wire cutters	As required As required As required 1 2 pairs 1

RESTRICTED

(a)	(b)	(c)	(d)	(e)	(f)	(g)
3	Positioning	—	1	3	1 × 4 ton or APC and 1 dvr	
4	Digging	—	1	7	—	Compass 1 Shovels 7 Picks (if required) 7
5	Arming and camou-flaging	—	1 See note	3	1 × ¾ ton Landrover and 1 dvr	Mine cap 3 spanners (Mk 7 only) Satchel 1
6	Total personnel	1	4	16	4 and 4 dvrs	

Note:

1. The NCO in Serial 5 is the 2IC of the Minelaying Party.

RESTRICTED

APPENDIX 2 to
ANNEX E

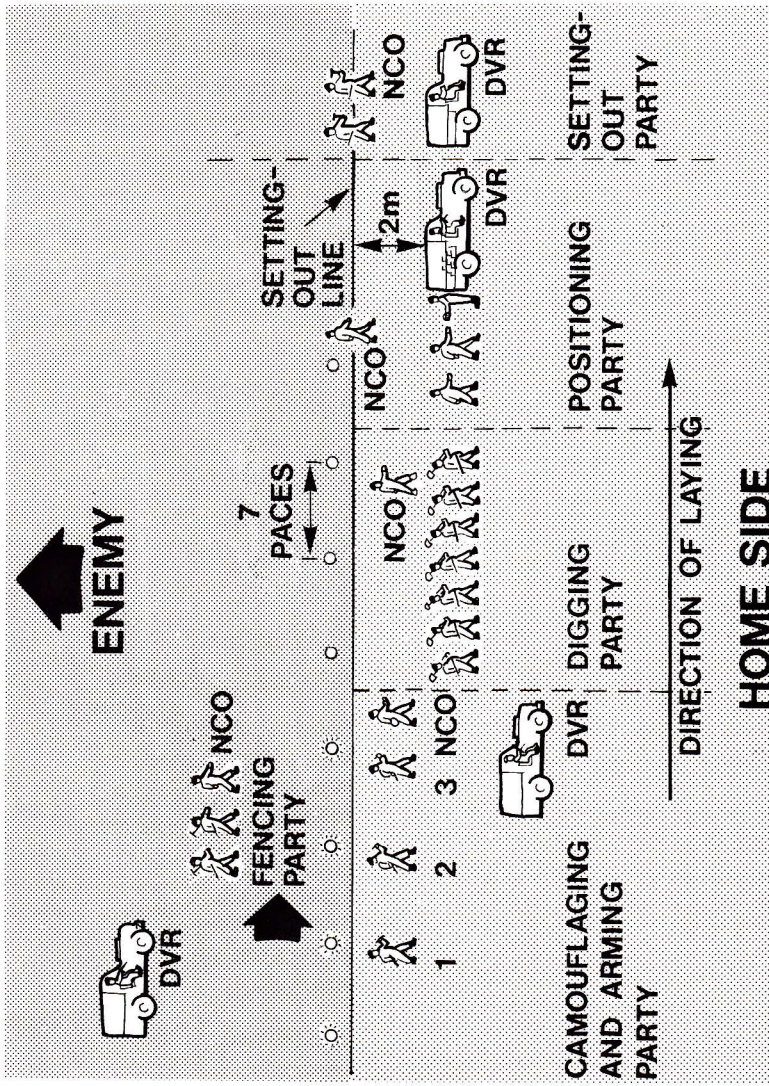

Fig 44.—Standard Anti-Tank Mine Handlaying Drill (Drill C)

ROUTINE IN DEFENCE (24 HOUR PERIOD)

Serial	Time	Event	Remarks
(*a*)	(*b*)	(*c*)	(*d*)
1	0530 hrs	OPs move into position	Food, spare binoculars, camouflage nets, radio and codes, spare batteries, log sheets, etc., must be taken. Must know password for following night.
2	0600 hrs	Standing patrols return to main position. Reveille	Probably situated on minefield lanes or likely enemy approach routes. Platoon woken up, pack away sleeping bags, prepare for stand to and check camouflage.
3	0620 to 0640 hrs	Platoon commander visits each slit trench	
4	0645 hrs	Stand to	No move by anyone in the company area ; if crawl trenches are dug, platoon commander can inspect section positions. Men fully dressed, web equipment worn.
5	0700 hrs	First light	Radio checked.

(a)	(b)	(c)	(d)
6	0715 hrs	Clearance patrols	To check possible cover for enemy recce patrols which may have infiltrated during the night. These clearance patrols will be covered by the remainder of the platoon.
7	0730 hrs	Stand down	When clearance patrols have reported all clear.
8	0730 to 0800 hrs	Wash, shave, clean weapons	**a.** Day sentries posted. **b.** Half section wash, shave, clean weapons. **c.** Half section clean weapons, wash and shave.
9	0800 hrs	Breakfast arrives	Party **c.** of Serial 8 collect food (if cooking centralized) and remainder finish washing.
10	0815 hrs		Party **b.** of Serial 8 collect food. Food must be collected in organized groups and should, if possible, be eaten in slit trenches not at the distribution point. In an adverse air situation or in close contact, or on a forward slope feeding may have to be completed during the hours of darkness before stand to.
11	0830 to 0915 hrs		Breakfast eaten, mess tins and area cleaned. Party **a.** of Serial 8 clean weapons. Troops check and clean personal kit and pack it away. Section commanders inspect areas.

(*a*)	(*b*)	(*c*)	(*d*)
12	0915 hrs	Platoon commander's inspection	He must check: **a.** Weapons. **b.** Surveillance devices. **c.** Ammunition **d.** Radios. **e.** Reserve rations, water, ammunition. **f.** Men for personal hygiene. **g.** Clothing and equipment (buttons sewn on, socks and tears darned, etc. One or two items each day, gloves, mess tins, mugs, etc.). **h.** Area, including sleeping bags/shelters, latrines and waste pit. **i.** Platoon sergeant to note men's requirements of cotton, laces, writing materials, tooth paste, chocolate, etc.
13	1100 hrs	Company commander visits	Inspect area, weapons, kit, etc.
14	1150 hrs	Company 'O' group	Issue orders as necessary, password, etc.
15	1230 hrs	Lunch. Patrols briefed	Platoon moves to collect food in two organized parties. Letters collected and distributed.
16	1730 hrs	Evening meal	As for column (*d*) Serial 15. NAAFI stores, items of kit may be issued at this time.

RESTRICTED

(a)	*(b)*	*(c)*	*(d)*
17	1800 hrs	Prepare to stand to	
18	1810 to 1829 hrs	Platoon commander visits each slit trench	
19	1830 hrs	Stand to	No movement by anyone.
20	1900 hrs	Last light	
21	1930 hrs	Stand down	Double sentry posted, others may sleep unless required for other duty. Standing patrols leave position.
22	2000 hrs	OPs return to main position	
23	2030 hrs	First sentry relieved.	New sentry must be posted.
24	0530 hrs	OPs leave main position	As for column (*d*) Serial 1.

ANNEX G

Army Form W 4012 B
R.N. Form S 1543
(Revised 1968)

Serial No..... Security Classification.....

ORDERS TO THE DEMOLITION FIRING PARTY COMMANDER

NOTES:—Parts I, II and III will be completed and signed before this card is handed to the Demolition Firing Party Commander. **Paras. 4 and 5 can only be altered by the authority issuing these orders.** In such cases a new form will be issued and the old one destroyed.

From..... To.....

Part I—Orders for preparing and charging the demolition target

1.a. Description.....

.....

.....

b. Location:—
Map Name and Scale .....

Sheet No..... Grid Reference.....

c. Code word of Demolition Target (if any) .....

.....

d. Attached photographs and special technical instructions

.....

.....

.....

2. The DEMOLITION GUARD is being provided by (Unit)

.....

3. You will prepare and charge the demolition target to the STATE OF READINESS ..... by .....hours on

..... (date).

Any changes may only be made on the order of the issuing authority, or by the officer designated in para. 4.d. and will be recorded below.

STATE OF READINESS ORDERED "1 (SAFE)" or "2 (ARMED)"	Time and date change to be completed	Authority	Time and date of receipt of order

Note:- All orders received by message will be verified by the code word at para. 1.c. If the order is transmitted by an officer in person, his signature and designation will be obtained in the column headed "Authority".

Security Classification.....

Part II—Orders for Firing

NOTE:—The officer issuing these orders will strike out the sub-paras. of paras. 4 and 5 which are not applicable. When there is a Demolition Guard, sub-para. 4.d. will always be used, and para. 5 will always be struck out.

4.a. You will fire the demolition as soon as you have prepared it.

b. You will fire the demolition at .....hours on..... (date).

c. You will fire the demolition on receipt of the code word.....

d. You will fire the demolition when the officer whose designation is..... has signed para. 8 below.

Emergency Firing Orders (ONLY applicable when there is NO Demolition Guard)

5. YOU WILL NOT FIRE the demolition in any circumstances except as ordered in para. 4 above or YOU WILL FIRE the demolition on your own initiative if the enemy is in the act of capturing it.

Part III—Orders for Reporting

6. After firing the demolition you will immediately report results to the officer who ordered you to fire. In the event of a partial failure, you will warn him, and immediately carry out the work necessary to complete the demolition.

7. Finally you will immediately report the results to your Unit Commanding Officer (see para. 13).

Signature of Officer issuing these orders .....

Name (in capitals) .....

Designation .....

Time of issue..... Date of issue.....

Part IV—Order to Fire

8. Being empowered to do so I order you to fire NOW the demolition described in para. 1.

Signature .....

Name (in capitals) .....

Designation .....

Time..... Date.....

READ THESE INSTRUCTIONS CAREFULLY.

Part V—General Instructions

9. You are in technical charge of the preparation, charging and firing of the demolition target described. You will nominate your deputy forthwith, and compile a seniority roster of your party. You will ensure that each man knows his place in the roster, understands these intructions, and knows where to find this form if you are hit or unavoidably absent. You will consult with the Demolition Guard Commander on the siting of the firing point.

10. You must understand that the DEMOLITION GUARD Commander (where there is one) is responsible for:—

a. Operational command of ALL troops, at the demolition site. (You are therefore under his command.)

b. Preventing the capture of the demolition site, or interference by the enemy with demolition preparations.

c. Controlling all traffic and refugees.

d. Giving you the order to change the STATE OF READINESS from "1 (SAFE)" to "2 (ARMED)" or back to "1 (SAFE)" again. You will inform him of the time required for such a change.

e. Passing to you the actual order to fire.

11. When there is no demolition guard and you are instructed in para. 4 to accept the order to fire from some particular officer, it is important that you are able to identify him.

12. If you get orders to fire other than those laid down in para. 4 you should refer them to the Demolition Guard Commander or if there is no Demolition Guard Commander, to your immediate superior. If you cannot do this, you will ONLY depart from your written instructions when you are satisfied as to the identity and overriding authority of whoever gives you these new orders, and you will get his signature in para. 8 whenever possible.

13. The report to your Unit Commanding Officer, as called for in para. 7, should contain the following information (where applicable):—

a. Identification reference of demolition.

b. Map reference.

c. Time and date when demolition was fired.

d. Extent of damage accomplished, including:—
Estimated width of gap / Number of spans down } In the case of a bridge.
Size and location of craters in a road or runway.
Mines laid.

e. Sketch showing effect of demolition.

ANNEX H

ARMY FORM W4012.C (Revised 1971)

Serial No. ..... **Security Classification** .....

ORDERS TO THE DEMOLITION GUARD COMMANDER

Notes: 1. This form will be completed and signed before it is handed to the Commander of the Demolition Guard.

2. In completing the form, all spaces must either be filled in or lined out.

3. The officer empowered to order the firing of the demolition is referred to throughout as the "Authorized Commander".

From ..... To .....

PART I—PRELIMINARY INSTRUCTIONS

1. *a.* Description of target .....

b. Location:

Map Name and Scale ..... Sheet No. .....

Grid Reference .....

c. Code word or code sign (if any) of demolition target .....

2. The Authorized Commander is .....
(give appointment only). If this officer should delegate his authority you will be notified by one of the methods shown in paragraph 4, below.

3. The DEMOLITION FIRING PARTY COMMANDER has been/will be provided by .....

.....

4. All messages, including any code words or code signs (if any) used in these orders, will be passed to you by:

a. normal command wireless net, or

b. special liaison officer with communications direct to the Authorized Commander, or

c. telephone by the Authorized Commander, or

d. the Authorized Commander personally, or

e. .....

(Delete those NOT applicable)

Note: All orders sent by message will be prefixed by the code word or code sign (if any) at paragraph 1c and ALL such messages must be acknowledged.

PART II—CHANGING STATES OF READINESS

5. The demolition will be prepared initially to the State of Readiness .....

by ..... hours, on ..... (date).

6. On arrival at the demolition site, you will ascertain from the Commander of the Demolition Firing Party the estimated time required to change from State "1" (SAFE) to State "2" (ARMED). You will ensure that this information is passed to the Authorized Commander and is acknowledged.

7. Changes in the State of Readiness from State "1" (SAFE) to State "2" (ARMED) or from State "2" to State "1" will be made only when so ordered by the Authorized Commander. However, the demolition may be ARMED in order to accomplish emergency firing when you are authorized to fire it on your own initiative.

8. A record of the changes in the State of Readiness will be entered by you in the table below, and on the firing orders in possession of the Commander of the Demolition Firing Party.

State of Readiness ordered "1" (SAFE) or "2" (ARMED)	Time and date change to be completed	Authority	Time and date of receipt of order

Note: If the order is transmitted by an officer in person, his signature and designation will be obtained in the column headed "Authority".

9. You will report completion of all changes in the State of Readiness to the Authorized Commander by the quickest means.

PART III—ORDERS FOR FIRING THE DEMOLITION

10. The order for firing the demolition will be passed to you by the Authorized Commander.

11. On receipt of this order you will immediately pass it to the Commander of the Demolition Firing Party on his demolition order form ("Orders to the Demolition Firing Party Commander").

12. After the demolition has been fired you will report the results immediately to the Authorized Commander.

13. In the event of a misfire or only partially successful demolition you will give the firing party protection until such time as it has completed the demolition and report again after it has been completed.

PART IV—EMERGENCY FIRING ORDERS

Notes: 1. One sub-paragraph of paragraph 14 must be deleted.
2. The order given herein can only be altered by the issue of a new form, or, in emergency by the appropriate order (or code word if used) in Part V.

14. *a.* You will order the firing of the demolition only upon the order of the Authorized Commander, or

b. If the enemy is in the act of capturing the target you will order the firing of the demolition on your own initiative.

PART V—CODE WORDS (IF USED)

	Action to be Taken	Code Word
a.	Change State of Readiness from "1" to "2" (see paragraph 7)	
b.	Change State of Readiness from "2" to "1" (see paragraph 7)	
c.	Fire the demolition (see paragraph 10)	
d.	Paragraph 14.*a* is now cancelled. You are now authorized to fire the demolition if the enemy is in the act of capturing it.	
e.	Paragraph 14.*b* is now cancelled. You will order the firing of the demolition only upon the order of the Authorized Commander.	
f.	Special authentication instructions, if any.	
g.*	The Authorized Commander is changed to	

* The new Authorized Commander can be indicated by his address group or encoded title. An effective time can be added in code if required.

PART VI

Signature of officer issuing these orders .....

Name (printed in capital letters) .....

Rank ..... Appointment .....

Time of issue ..... hours, ... (date).

PART VII—DUTIES OF THE COMMANDER OF THE DEMOLITION GUARD

15. You are responsible for:—

a. Command of the demolition guard and the demolition firing party.

b. The safety of the demolition from enemy attack or sabotage.

c. Control of traffic and refugees.

d. Giving the orders to the demolition firing party in writing to change the state of readiness.

e. Giving the orders to the demolition firing party in writing to fire the demolition.

f. After the demolition, reporting on its effectiveness to the Authorized Commander.

g. Keeping the Authorized Commander informed of the operational situation at the demolition site.

16. You will acquaint yourself with the orders issued to the Commander of the Demolition Firing Party and with the instructions given by him.

17. The Demolition Guard will be so disposed as to ensure at all time complete all-round protection of the demolition against all types of attack or threat.

18. The Commander of the Demolition Firing Party is in technical control of the demolition. You will agree with him the site of your HQ and of the firing point. These should be together whenever practicable. When siting them you must give weight to the technical requirements of being able to view the demolition and have good access to it from the firing point.

19. You will nominate your deputy forthwith and compile a seniority roster. You will ensure that each man knows his place in the roster, understands his duties and knows where to find this form if you become a casualty or are unavoidably absent. The seniority roster must be made known to the Commander of the Demolition Firing Party.

20. Once the State of Readiness "2 ARMED" has been ordered, either you or your deputy must always be at your HQ so that orders can be passed on immediately to the Commander of the Demolition Firing Party.

4292/1820(H) S1JS 946148 25M 2/74 A.G. 3640/4

MINEFIELD BREACHING

1. **Infantry Breaching Equipment.**

Serial	Term	Description
(*a*)	(*b*)	(*c*)
1	BABY VIPER	**a.** 5 inch rocket, 6 boxes each of 30.48 metres (100 feet) explosive filled hose with special couplers, accessory box containing projector, arrestor parachute, head and tail initiators, etc. Fired 60-70 metres from near edge of minefield. **b.** Team: NCO + 7 (one per box—each weighs approx. 22.70 kg (50 lbs)). **c.** Effect: Clears anti-personnel mines along a minimum of 300 mm path, clearly defined, for a planning distance of 150 metres. Operational Danger Area: 20 metres behind hose; 100 metres laterally.
2	BANGALORE TORPEDOES	**a.** 37.9 mm (1½ inch) diameter steel tube explosive filled in 2 metre lengths which can be coupled together. Hose plug. Single pull pin tail initiator, with delay action. **b.** Team: One man per length required (2 metre length weighs 6.35 kg (14 lb)). **c.** Effect: 4 metres wide gap through wire obstacle. 600 mm wide path clear of anti-personnel mines.
3	IMPROVISED BANGALORE TORPEDOES.	Drain pipes or two angle iron pickets, bound with tape, filled with explosive or even explosives tied to a plank. Initiated by detonator and safety fuze.

(*a*)	(*b*)	(*c*)
4	MINE DETECTORS	**a.** Electronic search head, telescopic pole, amplifier unit, control box and head set. The set now in service is the No. 4C which is transistorized and lighter than earlier models. **b.** Team: 2 men (including one to prod and uncover mines). **c.** Effect: Detects metallic objects and metallic mines only. Depths vary according to metal.
5	MINE PRODDERS	Light alloy tubing body section, pistol grip, point section. Length variable. Angle of prodding 500-750 mils (30-45°). Effective depth, 75 mm (3 inches).
6	TRIPWIRE FEELERS	Length of stiff wire loosely suspended from a finger.
7	WIRE CUTTERS	Shears with folding handles issued with frogs.
8	MINE MARKERS	150 mm (6 inch) white collapsible canvas cones.
9	PROTECTORS	Special goggles. Eye injuries form the majority of mine casualties during detection and clearance.

2. **Hand Breaching.**

   a. The deployment of sections to carry out a 5 metre breach is shown at Appendix 1.

   b. The minefield breaching drill is shown at Appendix 2 (Fig 45).

MINEFIELD BREACHING—DEPLOYMENT OF SECTIONS

(5 metre Breach)

Serial	Task by Parties	Sections				Remarks
		1	2	3	4	
(*a*)	(*b*)	(*c*)	(*d*)	(*e*)	(*f*)	(*g*)
1	Setting out	1 NCO 3 Sldrs				
2	Basic Breaching		1 NCO 4 Sldrs			More basic breaching parties may be formed depending on the numbers available.
3	Basic Breaching			1 NCO 4 Sldrs		
4	Detonating	1 NCO 1 Sldr				Parties from these serials can be made up from those in serials 1 to 3 who have completed tasks.
5	Marking				2 NCOs 4 Sldrs	
6	Lane Repair	All sects and assistance from Engr Tp				

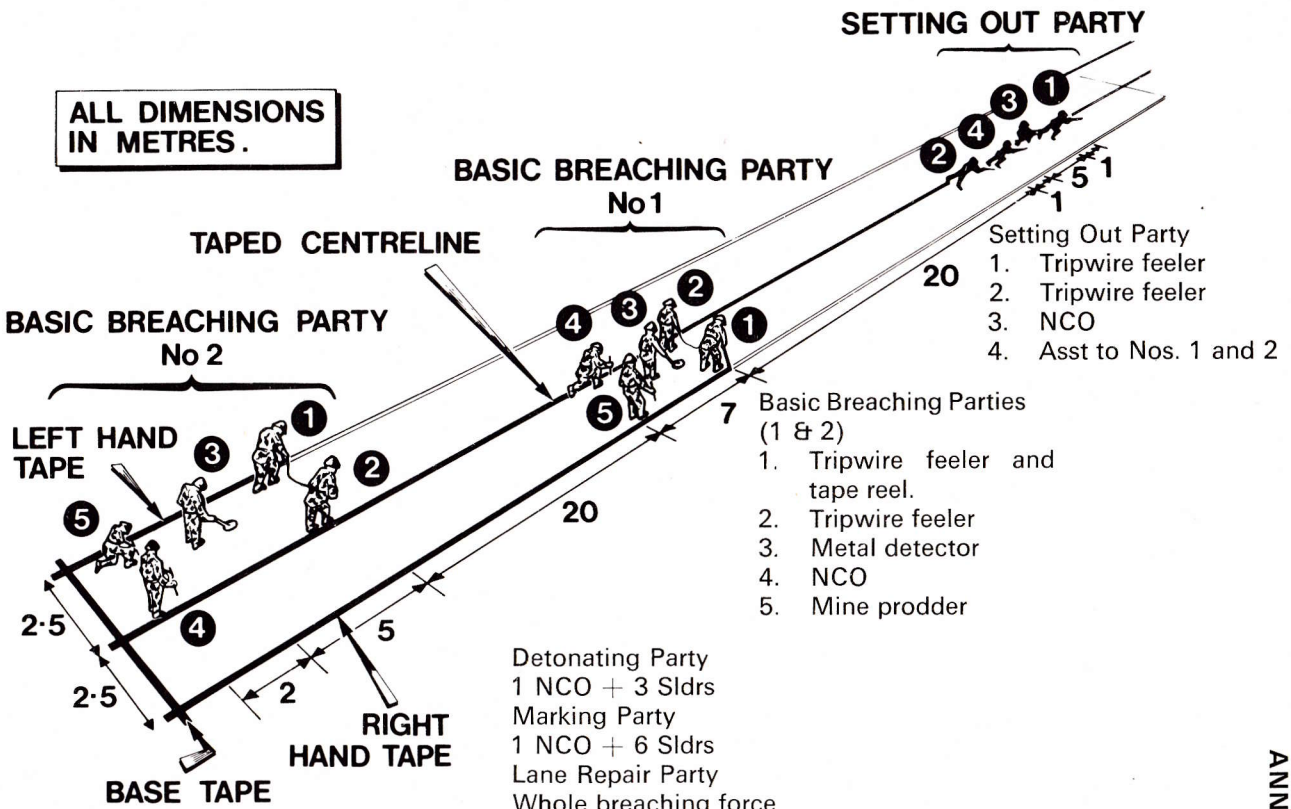

Fig 45.—Minefield Breaching Drill—Diagrammatic

ANNEX J

THE CONDUCT OF A CHEMICAL RECONNAISSANCE

General

1. Detailed chemical reconnaissance is a deliberate procedure and should be resorted to only when there is an operational requirement, when sufficient time is available, and the tactical situation permits. The time required to complete a reconnaissance will depend upon the following:

a. The size of the suspected area.

b. The degree and nature of contamination.

c. The number of men available.

d. The type of information required.

2. As a guide, one NCO and four men on foot can reconnoitre and mark an area approximately 1000 square metres in half an hour.

Composition of a Chemical Reconnaissance Party (CRP).

3. The normal composition of a CRP operating on foot is one NCO in charge (No. 1) and four men working in pairs (sections). Each section consists of a leading man (No. 2) and a rear man (No. 3). The number of sections required to complete a reconnaissance in a given time will depend upon the size of the area and the degree of control No. 1 can exercise. Very small areas and shell craters can be reconnoitred and marked very quickly by one man.

4. If speed is of paramount importance one or two men may be mounted in a suitable vehicle and ordered to make tests at specific points or at intervals along a route. If detailed information regarding the extent of the contaminated area is required, a more detailed reconnaissance must be carried out (*see* paragraph 9).

Tasks

5. Possible tasks for a CRP are as follows:

a. Locating and marking the extent of a contaminated area.

b. Confirming the presence of contamination in a specified area or along a route.

c. Locating and marking suitable diversions upwind of contaminated areas.

d. Collecting samples of water, soil, vegetation, etc., for subsequent examination.

Clothing and Equipment

6. All members of a CRP are to wear full protective clothing and equipment. The following additional chemical defence equipment, over and above individual protective equipment, is to be carried :

a. *No. 1.* Booklets of Detector Paper Chemical Agent No. 1, (3 colour). Kits Vapour Detector (KVD) and Residual Vapour Detector (RVD). Pick helve to act as a probe. Comms NBC 5 format. Map.

b. *No. 2.* Pick helve. Additional booklets of Detector Paper Chemical Agent No. 1 (3 colour) and No. 2 (1 colour).

c. *No. 3.* Toxic warning signs as required, detour signs, chinagraph pencil.

d. *Vehicle with driver and radio.* An extra supply of bleach, fullers earth (Decontamination Kits Personal (DKP)) and signs.

(*See* NBC Defence Training Pamphlet No. 3.)

Method of Operating on Foot

7. The following drill will ensure that the minimum number of men are exposed to contamination and that the spread of contamination is avoided :

a. No. 1 makes a preliminary reconnaissance of the area in order to decide the following :

(1) Where to start the main reconnaissance.

(2) How far apart to place sections.

(3) Which way to progress round the area.

b. No. 1, having briefed the party on his general plan, deploys the two sections at the edge of the suspected area 15 to 20 metres apart. In each section the No. 3 is 15 to 20 metres behind the No. 2 (*see* Fig 46). At least this distance is to be maintained between the Nos. 2 and 3 in each section throughout the reconnaissance. No. 1 places himself at a suitable distance between the Nos. 3 where he is best able to exercise control, and maintain direction.

c. Each No. 2 attaches a sheet of Detector Paper No. 2 to his probe.

d. No. 1 attaches a sheet of Detector Paper No. 1 to his probe, and orders the party to advance.

e. As the sections move forward No. 2 continuously prods the ground with the probe and examines the detector paper every three to five metres.

f. No. 3 follows No. 2, maintaining his distance, and watching No. 2 for signals.

g. When contamination is discovered No. 2 halts, shouts "*Gas*" and holds up his probe.

h. On hearing "*Gas*" from No. 2, No. 3 halts, repeats "*Gas*" to No. 1, and prepares a warning sign.

i. No. 1 halts the other section if not already halted, and advances to join No. 3.

j. No. 1 then uses his probe to determine the type of agent and informs No. 3.

k. No. 3 marks the sign in accordance with NBC Defence Training Pamphlet No. 3, Chapter 15, and places the sign in the ground where he stands.

l. When the sign has been placed, No. 1 withdraws the section and redeploys it on the flank in the direction he has planned to progress (*see* Fig 47).

8. No. 1 is to ensure that, when redeploying, the section approaches the suspected area only as far as originally planned before starting to probe the ground. It is then necessary to wait for both sections to come in line again, before the party as a whole once again moves off. Only in this way will No. 1 maintain control.

Contamination Control

9. Preventing the spread of contamination is perhaps the most difficult part of any chemical reconnaissance. This is particularly so when withdrawing sections prior to redeployment and also when carrying out a quick reconnaissance in vehicles. A thorough decontamination must take place when a reconnaissance is completed, before men and vehicles leave the area.

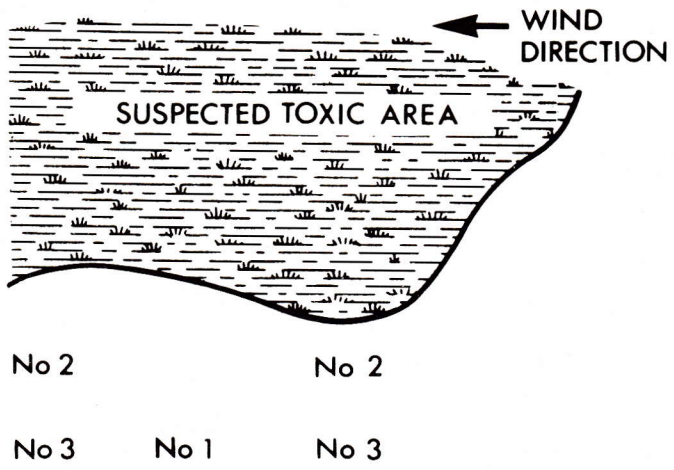

Fig. 46.—Deployment of Chemical Reconnaissance Party

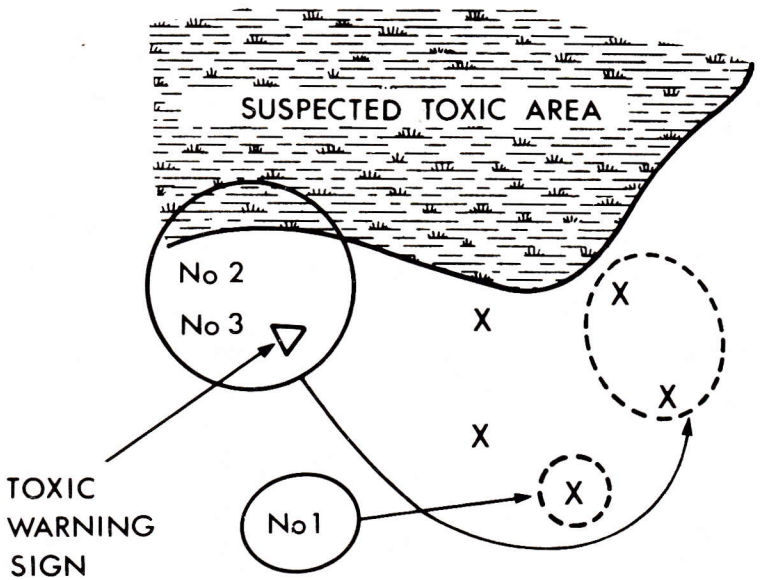

Fig. 47.—Redeployment of Chemical Reconnaissance Party.

ANNEX K

DUTIES AND RESPONSIBILITIES OF NBC SENTRIES

General

1. The number of sentries posted at any one time and their duties will depend upon:

- **a.** The tactical situation.
- **b.** The alarm system in use.
- **c.** The nature of the ground.
- **d.** The weather, including wind direction.
- **e.** The likelihood of attack.
- **f.** The size of the unit.

2. On occasions it may be possible to combine the duties of certain types of sentry.

3. Siting depends on the sentry's main purpose, for example, a chemical sentry must warn all personnel for whom he is responsible within five seconds and does not need such an extensive field of view as the nuclear observer. The latter must, where possible, locate and observe the area of ground zero after the bang and take measurements.

4. The location of all nuclear observers is to be recorded at the NBC Cell.

5. ***Communications.*** Sentries must, wherever possible, have access to a radio.

The Nuclear Observer

6. ***General.*** The purpose of the nuclear observer is to provide nuclear burst information. The observer makes certain measurements of the nuclear cloud and reports the information in the manner laid down in unit SOPs. Certain basic facts must be reported to enable casualties and damage to be estimated and fallout to be predicted. The information is required quickly and must be as accurate as possible. A format of reports and code letters to be used to indicate the types of information have been standardized in STANAG 2103.

7. ***Code Letters.*** These are as follows:

Code Letter	Meaning
(*a*)	(*b*)
B	Location of the observer.
C	Bearing of the burst from the observer.
D	Date and time of the burst.
E	Illumination time (seconds).
F	Grid reference of ground zero, if known.
H	Type of burst (air, surface or unknown).
J	Flash-to-bang time (seconds).
K	Crater present or absent, if known.
L	Cloud width angular measurement.
M	Cloud top/bottom angular measurement.

Note: The items underlined constitute the basic information which must always be reported in the Preliminary Report. If grid reference at Code Letter F is known it must be reported.

8. ***The Preliminary Report.*** This report is to be sent immediately after the passage of the shock wave. An example of the Preliminary Report is given below:

Message	Remarks
(*a*)	(*b*)
NBC ONE NUCLEAR CHARLIE 045 DELTA 242045 HOTEL AIR JULIET 18	(1) Location of observer may be excluded if already known (*see* paragraph 4 above). (2) Degrees or mils to be laid down in SOPs. Local or Z time to be laid down in SOPs.

Note: The observer must record item D so as to identify the Subsequent Report.

9. ***The Subsequent Report.*** Five minutes after the flash, the horizontal angle subtended by the nuclear cloud must be reported as follows:

Message	Remarks
(*a*)	(*b*)
NBC 1 NUCLEAR DELTA 242045 LIMA 008	Identifies burst (*see* Note at paragraph 8).

10. ***Cloud Width.*** If this cannot be measured five minutes after the flash or cannot be reported, cloud top or bottom are to be reported 10 minutes after the flash.

Message	Remarks
(*a*)	(*b*)
NBC 1 NUCLEAR DELTA 242045 MIKE 040 TOP	Identifies burst

11. ***Method of Operation.*** The nuclear observer should be established in a slit trench with overhead cover. This will prevent the likelihood of flash blindness. He should remain under cover until after the passage of the blast wave. The stop watch should be in his hand all the time.

12. ***Sequence of Events.***

a. *Daytime Burst.*

(1) Carry out the nuclear immediate action drill (*see* NBC Defence Training Pamphlet No. 2) and start the stop watch. Remain under cover until the bang is heard.

(2) Stop the watch as soon as the bang is heard and enter the flash-to-bang time as item J.

(3) Determine the type of burst and enter as item H.

(4) Measure the bearing to the cloud stem or cloud centre and enter the bearing at item C.

(5) Enter the date and time of burst and send a Preliminary Report.

(6) Five minutes after the flash measure the cloud width and enter the angle as item L in the Subsequent Report. If the cloud width cannot be measured the drill in paragraph 10 is to be used.

(7) Complete item D (recorded from the Preliminary Report) and send a Subsequent Report.

b. *Night Time Burst or when Visibility is Poor.*

(1) Carry out the immediate action drill, start the stop watch, estimate the illumination time and enter as item E.

(2) Enter flash-to-bang time as item J.

(3) After passage of the blast wave measure the bearing to the dying fireball and enter as item C.

(4) Complete items D and H and send the report.

Note: At night and if visibility remains poor by day it will not be possible to send a Subsequent Report but if measurements can be made then a Subsequent Report should be sent.

13. ***Equipment.*** The observer will require the following items of equipment:

a. Compass.
b. Watch.
c. Stop watch.
d. Map.
e. Binoculars.
f. Angle measuring instrument.
g. NBC 1 proformae.
h. Radio or telephone.
i. Torch.
j. Pencil.

The Chemical Sentry

14. ***Purpose.*** A chemical sentry's primary mission is to ensure that all persons for whom he is responsible receive the alarm within five seconds of the attack. It is clear, therefore, that sentries are likely to be posted at platoon or equivalent level by day and section level at night.

15. ***Types of Alarm.*** Alarms are described in NBC Defence Training Pamphlet No. 3. Unit SOPs must lay down the types of alarm to be used. The exact form these are to take will depend upon the tactical situation. Sentries may sound a mechanical alarm, shout "*Gas*" or make a visual signal, whatever method is used, speed is of the utmost importance. Radio messages warning other units/sub-units must have the highest priority.

16. ***Clothing and Equipment.*** Chemical sentries are to be fully protected (including wearing a respirator) throughout their tour of duty. The following additional equipment will be needed :

- **a.** A means of sounding or passing the alarm.
- **b.** Compass.
- **c.** Watch.
- **d.** Map.
- **e.** Binoculars.
- **f.** Detector Paper Chemical Agent No. 1 (Liquid Three Colour).
- **g.** Torch.

17. ***Reporting.*** After every chemical attack the sentry is to make an immediate verbal report to his commander. The report is to include the following :

- **a.** Location of attack.
- **b.** Time of attack.
- **c.** Means of delivery.
- **d.** Detector paper colour change, if any.

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